# INDIGESTION CONSTIPATION AND LIVER

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BY

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# PREFACE

INDIGESTION, constipation, and liver disorder are ailments of frequent occurrence. It is not an exaggeration to say that two out of every three patients complain of suffering from one or other of these complaints. The successful treatment, therefore, of these troubles is of considerable importance.

This book is written and published with a view of sharing with others the knowledge gained from the study of these disorders, and in the hope of lessening the frequency of these prevailing and everyday complaints.

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# INDIGESTION

## DIGESTION

A THOROUGH knowledge of the processes of digestion is the keynote to the appreciation and successful treatment of indigestion. Digestion, in spite of the fact that the mechanism is of an elaborate and complicated character, comprises a series of natural processes which take place almost unconsciously so long as the digestion is in good order; but once the mechanism breaks down or gets out of gear, the recognition of digestion is emphasized by the creation of indigestion. Briefly—

The food is masticated by the teeth.

Insalivated or mixed with the saliva.

Passes down the œsophagus into the stomach.

Mixes with the gastric juice.

Is expelled from the stomach into the bowel.

Is acted on by the bile from the liver, by the pancreatic juice from the sweetbread, and by the glandular secretions of the intestines.

Finally, is expelled from the body.

Digestion begins with the intake of food, and does not cease till the residue of waste material

reaches the reservoir at the lowest end of the bowel. Each process is an independent act, but each subsequent process requires the healthy fulfilment of the previous act or acts, otherwise the imperfection of one act unfavourably influences all the subsequent processes, so that if the first act of mastication is faulty, the effect is felt throughout digestion until the expulsion of the food from the bowel.

**Mastication** comprises the crushing and grinding of the food between the teeth, with a view of squeezing out the different fluids and juices for absorption by the blood, and requires that the teeth should be of sufficient number and in good order, and that the muscles of the tongue and mouth should be capable of moving and rolling the food between the teeth. An adult possesses two sets of teeth similar in number and construction, so that the teeth of the one jaw on closing the mouth approximate the corresponding teeth in the other jaw. The deficiency of a tooth in the one set impairs the utility of the opposite tooth in the other set, as there is a diminished surface of resistance, so that a patient in the possession of a fair number of good teeth may be practically toothless for purposes of mastication.

**Insalivation,** or the mixing of the saliva with the food, besides moistening the mouth and

corporated with the food by a series of muscular movements which serve to roll the food round and round, and to keep it in contact with the lining mucous membrane through which the secreting glands pour out the gastric juice, until the process of digestion is sufficiently complete to allow of the relaxation of the pylorus—a band of circular muscular fibres which close the exit from the stomach—and the onward progress of the food into the bowel.

**Intestinal Digestion** plays an important part in the digestion of the food, for whereas in the mouth starches only, and in the stomach proteids only, are digested, in the intestines starches, proteids, and fats are all made ready for absorption. The partially digested and the undigested food—the chyme—is acted upon by the bile from the liver, by the pancreatic juice from the sweetbread, and by the secretions from the intestinal glands, and is converted into chyle. The liberated fat globules are not absorbed direct into the blood, but enter the lacteals, and, undergoing change in the lymphatic glands, ultimately by a circuitous course reach the circulation. Meanwhile the food is moved on by peristaltic muscular contractions from the small intestines into the large bowel, in the upper part of which any nutriment which may not have been

absorbed is consumed, leaving a residue which is collected in a sacculated portion of the bowel ready for expulsion.

**The Liver**, the largest glandular organ in the body, secretes the bile, and also another substance, glycogen, which, oxidizing in the lungs, maintains the temperature of the body. The liver further acts as a filtering medium for the removal of impurities from the blood, and as a receptacle for the deposit of deleterious substances which would otherwise be absorbed into the system. The bile is a natural aperient, a deodorizer, and an antiseptic agent. It excites the secretions from the intestinal glands, and promotes muscular peristaltic action. The secretion is practically continuous, varying in amount from 1½ to 2 pints in the twenty-four hours, and is at its maximum during digestion. It is stored in the gall-bladder ready for future requirements when not needed for digestive purposes.

**The Pancreas**, or sweetbread, a gland similar in many respects to the salivary glands, secretes an *alkaline* fluid, the pancreatic juice, which is capable of converting insoluble starch into soluble sugar, of dissolving certain nitrogenous foods (in this respect resembling the action of the gastric juice), and of emulsifying the fat globules.

**The Intestinal Glands** are both numerous and of varied kinds, some of which secrete a mucus for the lubrication of the bowel, and so aiding the onward progress of the food, whilst others secrete a fluid which, acting on every variety of food, renders fit for absorption any unabsorbed nutriment.

From this description of digestion it is noticeable that—

The secretion in the mouth is alkaline, and digests starches.

The secretion in the stomach is acid, and digests nitrogenous but not starchy substances.

The secretion in the small intestines is alkaline, emulsifies fats, and digests every variety of nutriment.

The secretion in the large intestines becomes acid, and digests all foods.

Muscular movements take place throughout each process of digestion.

The description serves to emphasize the chief points necessary for healthy digestion, and is intended as a guide to work out the defect which gives rise to indigestion.

It is true that everyone with a medical training is familiar with the facts, but it is not quite so certain that in these days of scientific attainments, when the mind is apt to run on germs and

other up-to-date causes of disease, that simple knowledge is not allowed to fall into oblivion.

## INDIGESTION

Indigestion, or dyspepsia, is a defect, difficulty, or derangement of digestion, and includes all the functional disorders of the alimentary canal. It is a disease which may exist at any time, almost from birth to the extreme limit of old age, and is sometimes a trifling indisposition, more often a serious trouble, and occasionally a most intractable malady. It also may result from, or be associated with, many diseases entirely unconnected with digestion.

The popular supposition that indigestion is a disorder affecting solely the stomach is an inaccuracy, since digestion is not restricted to the stomach, but takes place and progresses throughout the whole of the alimentary canal. It is customary, however, to specify the diagnosis according to the different parts affected, or according to the nature of the disorder. This greater accuracy of diagnosis is a tribute to diagnostic skill, but possesses the drawback often of giving undue importance to the special ailment, and of causing the fact to be forgotten or overlooked that the ailment is in reality a digestive

disorder. Dyspepsia possesses and produces the most varied symptoms direct and indirect, so that the attempt at enumeration would include the symptoms of every disease of the alimentary canal, and of many disorders not usually associated with indigestion. It is a frequent cause of functional heart disturbance; it gives rise to many neuroses, as giddiness, headache, insomnia, and neurasthenia; it leads to difficulty of breathing, even amounting to asthma; it is responsible for many of the erratic pains so frequently, and often erroneously, attributed to rheumatism; it causes many functional disturbances connected with the womb; and produces many obscure symptoms sometimes so baffling to the professional mind.

Indigestion *is* indigestion—a truism sometimes not sufficiently appreciated—and the attempt, invariably a failure, to distinguish and classify the different varieties only creates confusion, and affords neither practical benefit nor advantage. Man under healthy conditions should be unconscious of the existence of digestion, and should be able to eat and drink anything and everything in moderation without a thought of the possibility, much less of the probability, of any subsequent evil effect. The very recognition of a digestion is an indication of the existence of indigestion.

**The Diagnosis** is quite simple if it implies merely the recognition of dyspeptic symptoms, but is more difficult if it includes the detection of the locality and the cause of the disease. The first essential point is the differentiation between dyspepsia as a primary disorder and dyspepsia as a secondary symptom. The distinction necessitates a thorough examination of the patient, since it is chiefly by the exclusion of the existence of other ailments which could produce the existing symptoms that it is possible to form a true and accurate conclusion. The examination should be carried out with system, but the form of the investigation is of little consequence. It does not suffice to look at the tongue, to feel the pulse, to ask a few questions, and then jump at the diagnosis; for this guesswork method, though it may create an impression of ability and knowledge, frequently leads to serious error. It is inadvisable, also, to proceed to the immediate examination of the part at which the patient complains of either pain or discomfort. A preliminary chat about the history of the case, the occurrence and duration of the symptoms, the ability to eat and sleep, with an inquiry about the condition of the bowels, sets the patient at ease, and removes the nervousness naturally associated with the examination.

The next step towards successful diagnosis is the recognition of health, for the knowledge that an organ is sound and that a function is properly performed clears the field and limits the possibilities of diagnosis. During the course of elimination any defect is noted for subsequent investigation. If there be an absence of any organic mischief, and a reasonable supposition be formed that the trouble is of dyspeptic origin, an endeavour is made to localize the disturbance. The existing symptoms usually give an indication of the seat of the mischief, and it then becomes necessary to ascertain the cause of the trouble. It is as well to begin from the beginning of digestion, and first examine the mouth to ascertain the condition of the gums and teeth; then to look at the tongue, bearing in mind that the appearance of it frequently is influenced by extraneous causes as smoking or nasal obstruction; then to examine the throat and pharynx for superficial ulcerations, which are of common occurrence, and which favour the supposition that similar ulcerations exist farther down the alimentary canal; and then to inquire about the ability to swallow and the condition of the saliva.

The examination of the abdomen, in which are situated the chief organs of digestion, follows as a matter of routine, and should be made with great

care, as, apart from the natural difficulties, unusual variations may exist without being defects of health. In one patient all the natural positions of the organs were transposed, so that all the organs which should have been placed on the right were found on the left side, as were shown by X-ray examinations.

**Inspection** is the first step. The patient, having removed as much clothing as may be necessary, lies on a couch fully extended and with the legs uncrossed; whilst the doctor, taking up his position at the foot of the couch, either sitting or kneeling, so that his eyes are on a level with the abdomen, notices the contour and looks at the symmetry of the abdomen. The patient is instructed to take a series—at first slowly and then quickly—of deep inspirations and long expirations, and unless there be excessive distension, the outlines of the stomach, and even definite portions of the bowels, are readily recognized by the trained eye.

**Palpation** follows. The patient lies on the back with the shoulders well propped up by pillows, and the knees well drawn up to relax the abdominal muscles as much as possible, whilst the doctor, standing on one side of the patient, passes his extended hands, first lightly, then more firmly, and later on with deep pressure, over the

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whole surface of the abdomen, taking note of any undue tension, any sensitive spots, or any painful parts. Then with the palms of the hands still in contact with the abdomen, the fingers by downward pressure, as if squeezing the parts, map out the contents of the abdomen, feeling the appendix, noticing any falling or mobility of either kidney, marking out the lower edge of the liver, observing any distension of the gall-bladder, feeling any induration of the pancreas, and recognizing the existence of any enlarged intestinal glands. This method of examination, needless to say, requires practice and experience, but even then it fails if there is much obesity. Examination of the patient in the *genu-pectoral* position—*i.e.*, the patient kneeling on the couch with the hips well elevated and the shoulders well depressed, so that the chest rests on the couch—often enables the doctor to map out the organs, and gives more reliable information in cases which cannot be examined owing to the increase of adipose tissue by the ordinary method.

**Percussion** is the third step of the examination. The mere tapping of the fingers and the eliciting of a dull or resonant note are of little utility unless the individual is able to appreciate the meaning of the varied tones of dulness or resonance, to recognize the different degrees of resistance, and

to draw reliable deductions from the acquired knowledge.

The most frequent cause of abdominal dulness is an accumulation of waste material, and the chief cause of abdominal hyperresonance is the existence of flatulence—both disorders of digestion; but there are many other causes, and amongst them pregnancy and a distended bladder, both of which are easily overlooked, and require careful investigation.

**Auscultation** is the next stage of the examination, and is of use to test muscular tonicity, especially of the stomach. If the earpiece of the stethoscope be placed over the region of the pylorus, and gentle friction be made along the lower border of the ribs towards the ensiforme cartilage, the muscular movements which should occur within a few seconds are distinctly audible to the trained ear.

**Auscultatory-Percussion** is believed to be an original idea, and indisputably is of great value for diagnostic purposes. The earpiece of the stethoscope is held on the abdomen between the middle and ring fingers, whilst percussion is made on the index-finger of the same hand; and then, by gently gliding the earpiece along the surface and continuing the percussion, it is easy to recognize any variation of sound elicited by percussion

over a different underlying structure. It is possible with a little practice to mark out the exact extent of a dilated stomach with even greater accuracy than that afforded by Röntgen rays, and to recognize the different portions of the intestines. It also intensifies the notes of dulness and resonance, and facilitates the task of correctly interpreting any abnormal sounds.

**A Rectal Examination** is not always a necessity, but it is a wise precaution, lest from omission a serious condition escapes notice. The presence of hæmorrhoids is an indication of hepatic sluggishness or congestion, and the examination makes sure that there does not exist any obstruction to the exit from the bowels.

## ERRORS OF DIGESTION

Errors of digestion produce temporary inconvenience, usually followed by colicky pains and sometimes accompanied by vomiting; but the repetition of errors gives rise to troublesome digestive disturbance, and eventually causes organic mischief.

The food is taken into the mouth, and on the supposition that it is imperfectly masticated or insufficiently insalivated enters the stomach as an indigestible bolus, and sets up a varying amount

of irritation. The repetition of the error and the recurrence of the irritation cause a condition of gastritis. The harm does not cease with that trouble, for the irritation causes contraction or spasm of the pylorus of the stomach, eventually giving rise to a thickening of the part, and causing stenosis or partial obstruction to the onward progress of the food. The delay in the passage from the stomach sets up acetous fermentation, which increases the condition of gastritis and causes irritation of the pylorus. The evil effect is continuous, and spreads from the stomach through the pylorus to the duodenum, giving rise to duodenitis and duodenal ulcer; and then, by extension along the common bile-duct, involves the liver, the gall-bladder, and the sweetbread. The indigestible bolus continues its course through the alimentary canal, setting up irritation in the different portions of the bowels, sometimes producing inflammation of the appendix and at other times creating a condition of colitis until it reaches the lowermost end of the bowel, from which it is expelled with difficulty. The suggestion is not made that the passage of an indigestible bolus necessarily creates all these evil results; but the contention is that the repeated passage of indigestible boluses of food maintain a constant state of irritation and inflammation, and so

may and do give rise to any and all of these ailments.

**The Prognosis** usually is favourable provided the trouble has not been of too long a duration, nor given rise to organic changes; but since the disease usually has made considerable headway before it has attracted attention, a speedy cure is not a probable result. A guarded prognosis should be given when the symptoms point to the beginning of organic change. In border-line cases between functional and organic diseases, the prognosis is a matter of great difficulty. There is a diagnostic sign which, if present, affords most reliable information. *If the two radial pulses differ in strength from the beat of the heart, and also from one another, the beginning of organic change is a certainty.* A description of this sign was published in the *Lancet*, and the condition was attributed to an inequality in size of the bloodvessels; but the cause, be it what it may, does not minimize the importance of the observation. Unfortunately, it is a positive and not a negative condition, for the absence of it does not exclude the possibility of the existence of organic change. It has been observed in a large number of cases, and has enabled a diagnosis to be made and a grave prognosis to be given with a knowledge of future developments which could neither have

been foreseen nor foretold except by the aid of this test.

**Treatment** depends on the nature and locality of the defect, but as each process of digestion is set in motion in response to nerve influence, and is efficiently performed by the aid of muscular movements, the condition of the nerves and muscles of each special part must receive attention, and, if required, appropriate treatment.

Digestion begins with mastication of the food, so decayed teeth should be filled or crowned, and deficiencies should be replaced by artificial substitutes. Bolting of the food or hurried meals should be avoided; but if the habit be too strong, the food should be minced, pounded, or even passed through a sieve; this preparation of the food is not desirable, as it favours insufficient insalivation.

Soreness of the tongue or mouth or gums should be remedied. The following mouth-wash is usually beneficial for most of the simple ailments:

| | | |
|---|---|---|
| ℞ | Potassæ chloratis ... ... ... | gr. v. |
| | Tincturæ myrrhæ ... ... ... | ♏ x. |
| | Glycerini boracis ... ... ... | dr. i. |
| | Aquam ... ... ... ... | ad oz. i. |

Misce. The mouth-wash to be used every three or four hours.

Insufficiency of saliva is remedied by increasing the flow of saliva, and this is often effected by placing a small pebble, or by allowing a lozenge or tablet of any bitter drug to dissolve in the mouth; but in obstinate cases chewing a small piece of pellitory root is an effective remedy, but has the drawback sometimes of producing a temporary numbness. Sucking a slice of lemon or an acidulated drop will increase the flow as the alkaline saliva endeavours to neutralize the acidity. In cases of dryness of the mouth due to nervousness, 5 drops of validol, a preparation of menthol and valerian, on sugar will often prove of benefit.

Should the amount of saliva be insufficient to convert the starches into sugar, a 2½-grain tablet of takadiastase should be taken with each meal, or one of the preparations of extract of malt.

Dyspeptic ulcers of the pharynx are best treated by the application of equal parts of extract of pine and glycerine, or of 10 drops of tincture of iodine in ½ ounce of glycerine of borax.

Stomachic functional dyspepsia is amenable in the early stage to the administration of an acid *or* an alkali in combination with a stimulant *or* a sedative drug.

The value of an acid given after meals to tone up digestion and promote the flow of gastric juice

is well known to every practitioner, but acids should not be prescribed if there exist any symptoms of a congestive or inflammatory condition of the stomach. The choice of the acid is of little consequence, but the three acids most commonly ordered are the dilute hydrochloric, the dilute nitric, and the dilute nitromuriatic acid. They are best given in a bitter infusion of gentian, calumbra, or chiretta, with or without flavouring agents.

An alkali given shortly before meals is an imitation of nature, for there is a natural alkaline secretion which takes place just prior to the entrance of the food into the stomach. It serves by dissolving the mucus to cleanse the lining of the stomach, and to excite the natural flow of the gastric juice. An alkali given after meals on the completion of gastric secretion counteracts any residual acidity, and favours the onward progress of any undigested food. The alkali is usually prescribed with a mild, bitter infusion, but more with the object of giving an appearance or taste to the medicine than for any remedial effect, and it is equally efficacious if dissolved in any flavoured water.

The combination of either an acid or an alkaline medicine with either a stimulating or sedative drug depends on the condition of the constitution,

and is regulated by the existing symptoms. The addition of a stimulant is desirable if there is any depression of mental energy, if there is any debility of the circulation, or if there is any want of tone in the power of digestion. As a rule three to five drops of tincture of nux vomica give the necessary additional spur or fillip, but almost every tincture produces a similar effect. With an alkaline mixture half-teaspoonful doses of sal volatile and compound spirit of horseradish act as an efficient stimulus, and assist in dispersing any excess of flatulence.

A sedative drug is added to the medicine whenever there exists a condition of irritability. Opium in one form or another is usually combined with the acid mixture, but should be given in small doses, whilst bismuth, which acts mechanically, and therefore requires to be given in large doses, is the best addition to the alkaline medicine. The carbonate of bismuth is preferable to the subnitrate, as the latter in a large dose acts as a poison. The liquid preparations of bismuth chiefly owe their efficacy to the other ingredients of the prescription, and are only suitable for mild cases.

The question whether to begin treatment with an acid or an alkali is a matter for discrimination, and can only be decided by a consideration of the existing symptoms, but in all cases of doubt it is wise to begin with an alkali as more likely to pro-

duce a satisfactory result. It is a very simple matter to make a change should the necessity arise, but it should be borne in mind that medicines are not magic potions, and therefore require a sufficiency of time to produce any desired effect.

As regards dieting in indigestion, the food which agrees best is the most suitable nourishment, but small and repeated meals often are better than one large meal, since the greater the amount of food the more work is required of the digestion. Liquid food is more readily absorbed and more easily digested than a solid diet, and should be given when it is thought to be desirable to minimize digestive activity. A milk diet is only a fluid diet if the coagulation of the milk is restrained by the addition of soda or Vichy water, or a powder of citrate of soda. Beef-tea is thought by some dietitians to be more of a stimulant than a food, but the amount of nourishment depends on the method of preparation. A good restorative and sustaining soup is made by cutting into small pieces equal parts of shin of beef, of scrag end of neck of mutton, and of knuckle of veal, putting them into an earthenware jar, the top of which should be covered with a *paste of flour* after a teacup of water has been added to the meat, the whole allowed to simmer in a not very hot oven

for from four to six hours, the fat removed, salt and pepper added to flavour, and served in a small soup-cup. Farinaceous foods are easy of assimilation, but have a tendency to fermentation and the production of flatulence. The soft varieties of fish, as sole or whiting, are readily digested, but are somewhat tasteless unless fried, in which case the fry should be removed. Meat depends for its digestibility on the tenderness of the fibre, so that as a rule mutton is more digestible than beef, and beef more so than veal, and veal than pork. Chicken, if tender, is fairly digestible, but is not so nourishing as is popularly supposed. Game and small birds, unless artificially fattened, or allowed to be high, are easy of digestion, but pigeon is very hard to digest. Vegetables are more or less indigestible, according to the proportion of cellulose or stringy fibre they contain, but if mashed are fairly easy of assimilation. The much abused potato owes its evil reputation more to bad cooking than to difficulty of digestion, and potato cream is a nourishing and appetizing relish. All fruits are best cooked, but fruits with pips should be avoided in cases of indigestion.

## GASTRITIS

Gastritis, resulting from errors of diet, is a frequent development of early dyspepsia. It is not difficult to understand how a lump of food imperfectly masticated and insufficiently insalivated sets up an amount of irritation in the stomach, nor how the frequent repetition of the irritation eventually leads to an inflammatory condition, at first superficial, but subsequently involving the deeper structures, including the glands which secrete the gastric juice. The condition, unless checked, leads from bad to worse, until the structures are irretrievably damaged. Fortunately, the stomach is a long-suffering organ, and capable of withstanding considerable ill-treatment before it shows any resentment by undergoing organic change. Over-indulgence in alcohol, especially in the form of frequent nips, necessarily impairs the sensibility of the mucous membrane of the stomach; at first by increasing the secretion of mucus, and subsequently by hardening the structures, and so impairing the flow of gastric juice. The treatment is the removal or cessation of the cause, but in the early stage something is required to allay the inflammatory condition. Rest is essential, and

as during fasting the secretion and mobility of the stomach are at rest, restriction of food is common-sense practice. Nature corroborates the wisdom of this method of treatment, for in dietetic gastritis the chief symptom is vomiting, or an effort to secure rest to the stomach by the expulsion of the food. The system of starvation, willingly acquiesced in by the patient, does not always find favour with the friends of the patient, as they fear that the withholding of food means loss of strength; but practical starvation can easily be enforced by giving for the first day or two only barley or toast and water, and for the next few days milk and Vichy water, in the proportion of 4 ounces of milk and 2 ounces of Vichy water every two, three, or four hours, according to the circumstances, until, the stomach being rested, a gradual return is allowed to more nutritious food, and then to ordinary diet. Should the milk and Vichy water disagree, as it sometimes does, a powder of 15 to 20, or even 30, grains of citrate of soda should be dissolved in the drink.

The vomiting as a rule empties the stomach of the indigestible food, but if particles of food are still found in the ejected food, the advisability of giving an emetic needs consideration. If the patient be strong and robust, there need not be the slightest hesitation about doing so; but if, on

the contrary, the patient has a feeble constitution, it is not wise to resort to so severe a measure, and it is better to give hot water with a view of washing the offending substances into the bowel, or at any rate of diminishing the straining of the vomiting by supplying the stomach with something which it can reject with ease. A powder, comprising 2 grains of calomel with double the quantity of bicarbonate of soda, placed on the back of the tongue, and washed down with a little water, is often serviceable in allaying the vomiting and clearing out the intestinal canal, and so getting rid of the irritating food.

It may happen that the vomiting, even after the ejection of all the indigestible food, continues, either as a result of nervous irritation or from exhaustion. The former requires bismuth and the latter a stimulant in the shape of champagne.

The following is a good mixture of bismuth:

| | | |
|---|---|---|
| ℞ | Bismuthi carbonatis ... ... | gr. x. |
| | Sodii citratis ... ... ... ... | gr. x. |
| | Magnesii carbonatis ... ... | gr. x. |
| | Pulveris tragacanthæ ... ... | gr. xx. |
| | Aquam menthæ piperitæ ... ... | ad oz. i. |

Misce. Every four hours till the sickness is relieved.

Dilute hydrocyanic acid, so frequently prescribed, is a useful sedative to the gastric mucous membrane, but it is a cardiac depressant, and

should not be prescribed as a matter of routine, but only if the condition of the pulse justifies its administration.

Pain is often the most prominent feature in an acute attack, and is situated sometimes in the stomach, and at other times in the abdomen. The vomiting usually has emptied the stomach, and has prepared the way for the administration of an analgesic remedy. Chlor-Anodyne (P. D. & Co.), in a 10-minim dose, mixed in a sherry-wineglass of water, frequently affords prompt relief; but as this remedy is not always procurable without some delay, 10 drops of the solution of hydrochloride of morphine may be prescribed in a bismuth mixture, as—

| | | |
|---|---|---|
| ℞ | Liquoris morphinæ hydrochloridi | ♏ x. |
| | Tincturæ cardamomi co. ... ... | ♏ xxx. |
| | Bismuthi carbonatis ... .... | gr. x. |
| | Aquam menthæ piperitæ (vel chloroformi) ... ... ... ... | ad oz. i. |

Misce. To be taken every four hours till relieved.

Bisedia (Schacht's) in ½-drachm doses in a wineglass of water is another useful preparation; but it contains dilute hydrocyanic acid, and should therefore not be ordered if there are any signs of cardiac weakness. A mustard leaf applied over the stomach frequently both checks vomiting and relieves pain.

When the pain is chiefly abdominal, a purgative remedy, to which a little opium may be added, usually is necessary to clear away the indigestible food. Castor oil, which acts on every part of the bowels, is the best remedy, but is not easily retained, so it is often necessary to give calomel. Five grains used not to be considered an excessive dose in the treatment of biliousness, but it is far better to give a quarter or even a sixth of a grain every hour till the desired result is obtained than to give one large dose. The addition of double the amount of bicarbonate of soda to the calomel more than doubly intensifies the action of the mercury. A Seidlitz powder dissolved in a tumbler of water should be given some hours after the calomel has had effect, and later on a soothing mixture of bismuth and opium. The following prescription is a good remedy:

| | | |
|---|---|---|
| ℞ | Liquoris bismuthi ... ... ... | ♏ xxx. |
| | Glycerini pepsinæ ... ... ... | ♏ xxx. |
| | Tincturæ cardamomi co. ... ... | ♏ xxx. |
| | Tincturæ chloroformi et morphinæ co. ... ... ... ... ... | ♏ iii. |
| | Aquam ... ... ... ... | ad oz. i. |

Misce. To be taken every four hours till relieved.

The gastritis caused by errors of diet is more often of the chronic than the acute variety,

especially if the trouble be caused by deficient mastification of the food or by over-indulgence in alcoholic beverages. The chief point in the treatment is the removal or correction of the cause; but since the disease probably has been of considerable duration, further measures are necessary to restore a healthy condition to the lining of the stomach. A saline aperient taken in a tumbler of hot water in the early morning serves as a preliminary cleansing of the mucous membrane, and, further, clears out the bowels; but as all saline aperients produce more or less debility, it is advisable to combine with them a tonic drug as quinine, calumba, or gentian. The ordinary white mixture is as good as any other saline, and a quinine tablet of 1 or 2 grains can be taken at the same time. The prescription of the white mixture is as follows:

| | | |
|---|---|---|
| ℞ | Magnesii sulphatis ... ... ... | dr. i.ss. |
| | Magnesii carbonatis levis ... ... | gr. xv. |
| | Aquam menthæ piperitæ ... ... | ad oz. i. |

Misce. To be taken in a tumbler of hot water in the early morning.

It should be remembered that the clearing out of the lower bowel is a necessity for the activity of the earlier processes of digestion, and that a sluggish colon means a feeble stomach, for as long as the bowels are constipated the stomach

will remain in a disordered condition, and will resist all medicinal efforts for improvement. The power of digestion is impaired, and therefore food should be of a light and easily digested character, and moderate in quantity. It is customary to limit the amount of fluid with the meals, if not to withhold it altogether, but it is not by any means certain that there is any advantage gained from the restriction. The fluid undoubtedly softens the food, and makes it more suitable for the action of the gastric juice, and it seems a matter of fair reasoning that if the strength of the gastric juice is so weak that the dilution with a little fluid impairs its activity, it is better to provide a softened mass than a hard bolus of food, and therefore that the addition of a little fluid aids rather than retards digestion. There may be exceptional cases in which the separation of fluids from solids is an advantage, but even then it is better altogether to withhold solid diet. As a matter of fact, the usual dietetic treatment of chronic gastritis is based on a wrong principle, for as long as the necessity for dieting exists, the patient's stomach is in an unhealthy condition, and requires correction. It is better to treat and cure the disease than to rely on a dietetic regimen for the relief of symptoms, and it is wiser to aid digestion by giving digestive adjuncts in the

form of 1 teaspoonful of elixir of lactated pepsin (P. D. & Co.), or 1 teaspoonful of pepsencia (Fairchild's) in a wineglass of water immediately after meals, or a tablet or powder of 10 grains of lactopeptine. These medicines should be given only as a temporary expedient to allay the distressing symptoms, and to gain time for the curative treatment to take effect.

A digestive tonic usually produces the best effect in these cases of atony. The following remedies have been well tried, and invariably have given good results:

| | | |
|---|---|---|
| ℞ | Acidi hydrochlorici diluti ... ... | ♏ xv. |
| | Liquoris strychniæ ... ... ... | ♏ iii. |
| | Liquoris peptici ... ... ... | dr. i. |
| | Aquam anethi ... ... ... | ad oz. i. |

Misce. The dose three times a day after meals.

Or—

| | | |
|---|---|---|
| ℞ | Acidi nitrici diluti ... ... ... | ♏ x. |
| | Tincturæ nucis vomiciæ ... ... | ♏ v. |
| | Vini pepsini ... ... .. ... | dr. i. |
| | Aquam chloroformi ... ... ... | ad oz. i. |

Misce. The dose three times a day after meals.

Or—

| | | |
|---|---|---|
| ℞ | Acidi nitromuriatici diluti ... ... | ♏ x. |
| | Glycerini pepsinæ acidi ... ... | dr. i. |
| | Infusum gentianæ co. ... ... | ad oz. i. |

Misce. The dose three times a day after meals.

Should there be much flatulence and a sensation of fulness after meals, an alkaline tonic is

of use, and the following recipe is a good prescription :

| | | |
|---|---|---|
| ℞ | Sodii bicarbonatis ... ... ... | gr. xx. ✓ |
| | Spiritûs ammoniæ aromatici ... | ♏ xxx. |
| | Tincturæ gentianæ co. ... ... | ♏ xx. |
| | Syrupi zingiberis ... ... ... | ♏ xxx. |
| | Aquam menthæ piperitæ ... ... | ad oz. i. |

Misce. The dose to be taken twenty minutes before meals three times a day.

A mixture is invariably better than a pill or a tablet, but if for convenience of travelling or from an objection to the taste of the medicine, a tablet be preferred, one of the following preparations may be given : Compressed tablet " Bitter Tonic," No. 245, P. D. & Co. It consists of—

| | |
|---|---|
| Vini ipecacuanhæ ... ... ... | ♏ i. |
| Tincturæ capsici ... ... ... | ♏ ii. |
| Tincturæ nucis vomicæ ... ... | ♏ v. |
| Tincturæ gentianæ co. ... ... | ♏ v. |

One three times a day before meals.

Or, compressed tablet, "Anti-Dyspeptic," No. 135, P. D. & Co. It consists of—

| | |
|---|---|
| Strychniæ sulphatis ... ... ... | gr. $\frac{1}{60}$ |
| Pulveris ipecacuanhæ ... ... | gr. $\frac{1}{10}$ |
| Pulveris capsici ... ... ... | gr. $\frac{1}{4}$ |
| Extracti rhei ... ... ... ... | gr. $\frac{1}{4}$ |
| Extracti gentianæ ... ... ... | gr. $\frac{1}{2}$ |
| Sodii bicarbonatis ... ... ... | gr. ii. |

One three times a day before meals.

The selected remedy should be persevered with, for it is unreasonable to expect a speedy beneficial result considering the previous long duration of the trouble.

## GASTRIC ULCER

Gastric ulceration is far more prevalent than is popularly supposed, since it is only when the ulcer is of a certain size and produces certain definite symptoms that the diagnosis is made with any degree of certainty. Small superficial ulcers exist on the mucous membrane of the stomach just as they do on the lining of the pharynx, and they give rise to indigestion, but do not cause vomiting nor hæmorrhage.

The single ulcer which is liable to lead to perforation is characterized by more or less constant and severe pain, beginning shortly after a meal and persisting until the food has either passed through the stomach or been expelled by vomiting. There is usually a spot of tenderness over the ulcer, but this symptom may be caused by other complaints, so is not a conclusive proof of the existence of an ulcer. The result of the ulceration is imperfect nutrition, and, consequently, emaciation and general debility.

The treatment of the multiple small superficial ulcers depends on the cause, which usually can be

recognized by examination of the patient; and it is only by the cure of the condition that any treatment can be expected to do any good.

The single perforating ulcer greatly taxes the skill of the physician owing to the difficulty of giving rest to the stomach. Food, as soon as it enters the stomach, excites congestion, and becomes a source of irritation to the ulcerated surface, so should be restricted to the smallest possible quantities. The fact that vomiting is a prominent and more or less constant symptom clearly shows that the stomach resents the presence of food, so the prohibition of all food by the mouth during the early stage of treatment is a sound procedure.

Nutrition, however, requires to be maintained, and is best effected by the administration of small nutrient enemata of 4 or 5 ounces of beaten-up yolk of egg and milk, with the addition of 1 teaspoonful of pancreatic solution to aid absorption. The fluid should be slowly injected after having washed out the lower bowel with a saline injection through a fairly large size flexible catheter, well lubricated with K.Y. jelly (Van Horn and Sawtell).

Rectal feeding is only efficient for a very limited period, so feeding by the mouth becomes a necessity. A hard and fast dietary cannot be laid down as a matter of routine, but should be based on the

same principle as the feeding of a newly-born infant. Diluted milk first should be given a trial, and should be administered in small and definite quantities at frequent and definite intervals. Milk, however, does not suit every patient, and then should be discontinued in favour of other foods, bearing in mind that sometimes one and sometimes another food best suits the individual. Meat foods have a greater tendency than milk foods to increase congestion, and, if given from necessity, should be free of all spices.

With a view of minimizing the movements of the stomach, the patient should be kept strictly in the recumbent position, and given 5 drops of chlor-anodyne (P. D. & Co.) or 3 drops of nepenthe in the food or in a teaspoonful of water at intervals of four hours.

The vomiting as a rule ceases as soon as the food is discontinued; but if it prove troublesome, small doses of bicarbonate of soda and dilute hydrocyanic acid (wrong in theory) often produce a good result. The following prescription is a good combination:

| | | |
|---|---|---|
| ℞ | Sodæ bicarbonatis ... ... ... | gr. xxx. |
| | Acidi hydrocyanici dil. ... ... | ♏ xii. |
| | Tincturæ strophanthi ... ... | ♏ xii. |
| | Aquam anethi ... ... ... | ad oz. i.ss. |

Misce. One measured teaspoonful in a wineglass of soda-water every four hours until the sickness ceases.

The increase of food must be very gradual; at first an egg beaten up in the milk, then bread-and-milk, later on a farinaceous pudding, then pounded fish, finely minced meat or chicken passed through a sieve, until at the end of three, four, or six weeks a return is permitted to ordinary diet. The medicinal treatment should be restricted as much as possible to the administration of small doses of opium, or to the liquid varieties of bismuth, of which bisedia in teaspoonful doses is one of the best preparations. A small dose of bicarbonate of soda given ten minutes before a meal frequently gives great relief, in spite of the contention that it is likely to increase distension.

A gastric ulcer often leads to anæmia, but very rarely is a cause of it, so the administration of iron, until the ulcer has healed, is not likely to do any good, and frequently does harm. A digestive remedy has the advantage of lessening the work of digestion, and one teaspoonful of pepsencia, or of elixir of lactated pepsin (P. D. & Co.) in a wineglass of water with or after meals facilitates digestion. Later on an acid digestive tonic completes the cure.

The idea of performing an operation and cutting away the ulcer can only appeal to those who are unacquainted with the successful results of medicinal treatment, or who possess unbounded faith

in the efficacy of operative interference. The operation, even if a success, is not necessarily a cure, so it is inadvisable to submit the patient to the risks and the possibility of failure until every other method of treatment has received a fair trial.

## DILATATION OF THE STOMACH

Dilatation of the stomach in the true acceptance of the disease is a comparatively rare result of dyspepsia, but distension is a frequent consequence of prolonged indigestion. There is a marked difference between the two ailments, but the two conditions are so frequently confused that many errors as regards prognosis and treatment are of common occurrence. Dilatation is a bagging of the stomach, whilst distension is a general expansion. The enlargement in both cases is usually visible to the trained eye, and can nearly always be mapped out by auscultatory percussion. Formerly it was the custom to distend the stomach by giving a large dose of bicarbonate of soda dissolved in half a tumbler of water, and by following the drink almost immediately by a proportionate dose of tartaric acid also dissolved in half a pint of water; but this method of distension by carbonic acid gas has been abandoned, because it was not altogether free from

danger, in favour of examination by bismuth and the X rays. The latter plan, except in the hands of a reliable expert, often gives a wrong impression of the true size of the stomach, and is much inferior to the auscultatory-percussion process.

Distension is for the most part a temporary trouble dependent on a general atony of the muscular system, and is produced by the fermentation of the food, which remains for too long a period in the stomach. It is remedied by the restoration of muscular tonicity, but is alleviated by rest, careful dieting, gentle massage, and the wearing of an elastic belt. In severe cases absolute rest in bed is a necessity, since half measures will only end in disappointment and failure; but in an ordinary case in which the distension is of a varying capacity, showing that the mobility of the stomach is only impaired and not lost, rest for half an hour, both before and after meals, is of sufficient duration. Dieting means the avoidance of food which is prone to fermentation—as eggs, vegetables, especially root vegetables, and farinaceous foods. Both beer and tea are unsuitable beverages, and either water or a little dry white wine is better, but the intake of fluids should be restricted, since, muscular power being defective and deficient, the stomach does not contract to its proper size after the absorption of the fluid.

Massage properly applied aids the expulsion of wind, and assists in emptying the stomach, but requires skilled supervision, as the possibility of over-tiring weakened muscles, and thereby increasing instead of diminishing the trouble, is not an improbability.

Antiseptic or anti-fermentative remedies certainly afford relief, and in mild cases often apparently effect a cure. They act by stimulating muscular contraction, and so bringing about the removal of the stagnated food, or they excite eructations and favour the escape of wind; but there is considerable doubt if they act as disinfectants, or check the formation of flatulence. Two drops of oil of cajuput on a small lump of sugar often prove of use, or the following mixture may be prescribed with advantage:

| | | |
|---|---|---|
| ℞ | Spiritûs cajuputi ... ... ... | ♏ x. |
| | Glycerini puri ... ... ... | ♏ xx. |
| | Magnesii carbonatis levis ... ... | gr. xv. |
| | Sodii bicarbonatis ... ... ... | gr. xx. |
| | Aquam menthæ piperitæ ... ... | ad oz. i. |

Misce. The dose to be taken every four hours till relieved.

The sulphocarbolate of soda frequently is of use in fermentation arising from undigested food. The following is a useful prescription·

| | | |
|---|---|---|
| ℞ Sodii sulphocarbolatis | ... ... | gr. x. |
| Sodii bicarbonatis | ... ... ... | gr. xv. |
| Spiritûs ammoniæ aromatici | ... | ♏ xx. |
| Spiritûs armoraciæ co. | ... ... | ♏ xxx. |
| Aquam caryophilli | ... ... ... | ad oz. i. |

Misce. The dose to be taken one hour after meals.

Ichthyol tablets, 2½ grains, one or two taken after meals with a drink of water, or Beta-naphthol tabloids (B. W. & Co.), 3 grains, one after each meal with a drink of water, are of use in many cases of fermentation; but for the purpose of disinfecting the stomach, Bragg's vegetable charcoal, in powder form, is preferable provided it is given in a full dose, and it is best administered in a cachet as large as can be conveniently swallowed by the patient. Oppenheimer's palatanoids of cloves, 5 grains, are useful to carry in the pocket in the event of lunching or dining away from home.

With the improvement of muscular mobility, a tonic stimulating remedy should be prescribed. The following is a reliable medicine:

| | | |
|---|---|---|
| ℞ Pepsinæ puræ | ... ... ... | gr. xxx. |
| Acidi hydrochlorici dil. | ... ... | dr. ii. |
| Glycerini | ... ... ... ... | oz. i. |
| Tincturæ gentianæ co. | ... ... | ad oz. iii. |

Misce. One measured teaspoonful in a wineglass of water after meals.

Carbolic acid is sometimes prescribed in pill form for the relief of the flatulence, but it being a caustic, it is wiser to give it in a mixture to avoid the risk of setting up inflammation of the stomach. The following is a useful prescription:

| | | |
|---|---|---|
| ℞ | Acidi hydrochlorici diluti ... ... | ♏ xv. |
| | Acidi carbolici puri ... ... ... | gr. i. |
| | Liquoris strychniæ hydrochloratis... | ♏ iii. |
| | Tincturæ zingiberis ... ... ... | ♏ v. |
| | Spiritûs chloroformi ... ... ... | ♏ xv. |
| | Aquam menthæ piperitæ ... ... | ad oz. i. |

The dose to be taken after meals.

The recognized treatment of dilatation is lavage, a simple, practically painless process by which the stomach is cleansed of all the products of fermentation, as well as of any stagnated food. Sound in theory, it is unsound in practice, for it is merely relieving a symptom and not treating the cause; and apart from the objection which most patients entertain for this method of procedure, it does not lessen the bagging in the stomach, and so really does not do much good except in cases of pyloric obstruction, in which the food cannot find its way out of the stomach. As a substitute for lavage, kneading of the stomach whilst the patient is lying on a couch with the hips elevated above the level of the body deserves a trial. Another plan which has met with a certain amount of success

is for the patient to lie across a couch and to rest the chest on the floor, so that the stomach is turned topsy-turvy, and the food, by gravitation, falls out of the dilated sac. It is a better method to make the food as absorbable as possible, first by efficient mastication, or, if necessary, by passing it through a sieve; then by aiding the conversion of starches into sugar by allowing a tablet of takadiastase (P. D. & Co.) to dissolve in the mouth and mix with the saliva; and subsequently by taking a dose of digestive medicine as pepsencia (Fairchild's), or elixir of lactated pepsin (P. D. & Co.), one teaspoonful in water after each meal, to assist stomachic digestion. A weak current of electricity, or vibratory massage, one hour after food, often does good, and aids the contraction of the stomach.

## ACIDITY

Acidity of indigestion results from fermentation of food and the subsequent formation of deleterious acids. It may arise, also, from excessive secretion of the natural acid of the gastric juice.

Fermention proceeds from the retention of the food in the stomach, and is caused by eating too large a meal, or by the bolting of imperfectly insalivated starchy and saccharine food.

The secretion of the acid gastric juice is excited into action by the presence of the food, and the acidity of the secretion causes a closure of the exit, so as to retain the food in the stomach. The gastric juice does not have any effect on the starchy and saccharine foods, so if the acidity be excessive, the closure is prolonged, and the starchy and saccharine foods undergo fermentation and create more acids. It is evident that if the acidity of the secretion closes the exit, the increase of acidity by the fermentation of food must still further prolong the closure, with the result that the stomach is deprived of its proper allowance of rest necessary for recuperation. The consequences are the fermented and the fermenting foods set up gastritis, and give rise to distension and even dilatation of the stomach. The gastritis causes an increased secretion of mucus, which retards and hinders digestion, whilst the distension and dilatation retain the fermented food, so that the following meal is contaminated as soon as it enters the stomach.

Treatment primarily consists of diminishing the amount or neutralizing the excess of acidity, and then of removing the cause of the acidity. Nature indicates by an increased flow of saliva the necessity for an alkaline remedy. Sometimes a pinch of bicarbonate of soda effectually checks

the trouble; but as a rule a large dose—one teaspoonful or more dissolved in a little hot water—is required. The following powder is of use:

| | | |
|---|---|---|
| ℞ | Magnesii carbonatis levis ... ... | gr. xx. |
| | Sodii bicarbonatis ... ... ... | gr. xx. |
| | Bismuthi carbonatis ... ... ... | gr. x. |
| | Pulveris cinnamoni co. ... ... | gr. v. |

Fiat pulvis. The powder to be taken in a cachet before meals. Better 1-½ hr. A.C.

The addition of 5 grains of powdered rhubarb in each cachet is advisable if there is any tendency to constipation, and, if the pain be severe, of 3 grains of Dover's powder or ½ grain of codeina.

A tumbler of hot water, slowly sipped, loosens and liquefies the mucus, and should be taken shortly before meals. Hydrated magnesia in the form of milk of magnesia, a teaspoonful to a tablespoonful in a wineglass of water before meals, is a good and simple remedy. Phillip's milk of magnesia is a reliable preparation, and so is Dinneford's fluid magnesia.

## GASTRALGIA

Gastralgia is a rare symptom of functional dyspepsia, but occasionally does exist, especially if the patient is of a nervous temperament. It is a true neuralgia, which must not be mistaken for

the pain of organic disease. It is generally associated with neuralgia of other nerves, but the most distinguishing diagnostic feature about it is the almost immediate relief afforded by a small nip of alcohol. The persistency of the pain, however, may give rise to the suspicion of the existence of organic trouble in the shape of gastric or duodenal ulcer, or even of malignant disease; but it will be found almost invariably that the "pulse-test" shows evidence of organic change, if the pain is not due to a simple neuralgia.

Treatment comprises the building up of the constitution, the correction of any blood disorder, and the administration of an anodyne digestive remedy. Arsenic braces up the system, bismuth allays irritability, the salicylates purify the blood, opium relieves pain, and nux vomica stimulates the digestion. A combination of these drugs forms a good remedy, and the following prescription may be prescribed with confidence:

| | | |
|---|---|---|
| ℞ | Bismuthi salicylatis ... ... ... | gr. v. |
| | Liquoris arsenicalis ... ... ... | ♏ iii. |
| | Tincturæ nucis vomicæ ... ... | ♏ v. |
| | Nepenthe ... ... ... ... | ♏ ii. |
| | Mucilaginis ... ... ... ... | q.s. |
| | Aquam anethi ... ... ... | ad oz. i. |

Misce. The dose three times a day immediately before meals.

(1) both depress blood pressure.



Antikamnia, phenacetine, antipyrine, and similar drugs afford relief; but as they one and all depress the heart's action, they should be given with a hot alcoholic drink, and should be restricted to occasional use, since the indiscriminate employment of them is often attended with serious consequences. Opium is frequently the only drug which eases the pain, and should be given in small doses. It should be omitted every third day. An admirable preparation is papine (Battle), the pain-killing product of opium, given in half to one or two teaspoons, according to the severity of the pain, in a little water. Chlor-anodyne (P. D. & Co.), 5-drop doses in a wineglass of water, is another efficient remedy, which may be given alone or in combination with other drugs.

The following powder may be given in a cachet before each meal:

| | | |
|---|---|---|
| ℞ | Codeinæ ... ... ... ... | gr. ½. |
| | Lactopeptinæ ... ... ... | gr. x. |
| | Pulveris nucis vomicæ ... ... | gr. i. |
| | Pulveris rhei ... ... ... ... | gr. iii. |

Fiat pulvis. In a cachet. One before each meal.

In obstinate cases a series of small flying blisters over the pit of the stomach frequently relieves the pain. The diet should be light, easily digestible and nutritious, and should be given at short

intervals in small quantities. Stimulants, tea, and coffee should be forbidden. Cigarette smoking is likely to aggravate the trouble.

## NERVOUS DYSPEPSIA

Nervous dyspepsia is not a disease of nervousness, but of nerves, and is dependent on a deficiency of tone with a consequent hypersensitiveness of the mucous membrane of the stomach. It is associated usually with a general nervous depression which intensifies the stomachic trouble and creates the idea of the existence of organic disease.

The symptoms are of a varied character; but, as a rule, comprise pain in or about the region of the stomach—a feeling of fulness and oppression, attacks of faintness, palpitation, shortness of breath, heartburn, and flatulence, with headache, sleeplessness, constipation, malaise, and progressive emaciation.

The diagnosis, usually simple, is sometimes difficult when the symptoms simulate the signs of organic mischief, chiefly of duodenal ulcer, and requires a prolonged course of observation to insure an accurate decision, unless the test for the early recognition of organic change yields a positive result. A hasty opinion of the existence

of organic disease is liable to lead to an unnecessary (early) operation without any ultimate benefit to the patient. The diagnosis occasionally of a doubtful case can only be made by the test of treatment, so that it may be necessary to reserve an opinion until medicinal treatment has had a fair trial.

Treatment depends for success on the recognition of the fact that the disease is not a trifling disorder, but is a serious condition of ill-health. It is quite useless to attempt merely to relieve the symptoms, for palliation never will effect a cure. The initial difficulty is that the patient, though more or less a constant sufferer, usually objects to submit to a strict course of treatment; and yet, unless he does, he cannot regain his health. The success of an operation in these cases is mainly, if not solely, due to the acquiescence of the patient, compulsory after an operation, to carry out the only treatment which has any chance of effecting a cure.

Rest in bed for a period varying from one to three weeks, according to the severity of the symptoms, is an absolute necessity, and during the period of enforced rest massage for one hour should be given daily one hour after breakfast. A tumbler of hot water in which one teaspoonful of citrate of potash or bicarbonate of soda has

been dissolved should be slowly sipped in the early morning with a view of removing any accumulation of mucus, of neutralizing any excess of acidity, and of soothing the stomach. The dietary for the first three days should be of the most simple form, avoiding as much as possible farinaceous food, but subsequently should be without any restrictions, since digestion will not respond to persuasion, and, therefore, must be treated by coercion. The attack made on the dyspepsia is strongly resented by the stomach, as evidenced by an increase of pain and possibly by vomiting, but should be forced and repeated until it gains the mastery. This attack is the most difficult part of the treatment, primarily because of the interference and opposition by the friends of the patient, and for this reason the patient is better treated in a nursing home away from friends; and, secondly, because of the patient's mental condition and depression which lead him to fear that the treatment is doing harm, and that his strength is insufficient to carry on the contest. To assist the attack, opium should be given, and codeina, in $\frac{1}{4}$ or $\frac{1}{2}$ grain doses, is perhaps the most suitable preparation. The addition of 10 grains of carbonate of bismuth helps to sooth the lining of the stomach, whilst 15 or 20 grains of bicarbonate of soda or potash lessen

the acidity. These ingredients, together with 3 grains of powdered rhubarb or 1 grain of cascara to counteract the constipating effect of the opium, and with 5 grains of compound cinnamon powder as an antispasmodic agent, may conveniently be given in a cachet (or if too bulky in two cachets) a quarter of an hour before each meal. In the early stage 10 grains of lactopeptine or two 5-grain tablets crushed into a powder of peptenzymes may be added to the powder in the cachet or given separately in order to assist digestion; but they should be discontinued as soon as possible, since they are opposed to the principle of coercing the digestion to do its own work. As soon as the pain is markedly diminished and any vomiting has ceased, confinement to bed is not any longer a necessity, and the patient should be allowed to get up after drinking the hot alkaline water, and have a hot bath followed by a cold shower bath. The K. C. B. apparatus supplies a very effective shower bath. A good rub down with a rough towel, and the patient returns to bed for breakfast and subsequent massage, and after the necessary rest gets up and dresses for luncheon. During the afternoon the patient goes for a walk or drive, or plays a game of golf, or tennis, or hockey, etc., and then returns to afternoon tea,

after which a rest, reading a book, or writing letters, etc., is required till dinner-time. Before retiring to rest it is a good plan to have abdominal massage for twenty minutes, and to sip another tumblerful of hot alkaline water similar to the one taken in the early morning. A bitter tonic taken three times a day assists the restoration of health. It does not really matter what tonic is taken, but Fellow's compound syrup of the hypophosphites, dose of one teaspoonful well diluted with water, is an excellent preparation. Another useful brain food and nerve tonic is liquid acid phosphates (P. D. & Co.), of which twenty drops are taken in a wineglass of sweetened water three times a day after meals.

There is one point which requires attention before beginning the treatment of a case of nervous dyspepsia, and that is the condition of the teeth, for it is quite impossible to have a good result unless the teeth are in order and are capable of thorough mastication of the food. A small discharging gumboil due to the existence of a dead root is another impediment to success, and it is not a difficult mathematical task to compute the amount of pus swallowed in the course of twelve months, nor to estimate the harm which results from its absorption. The

hygiene of the mouth is important, and amongst the many good tooth-powders calox is an agreeable dentifrice.

## INTESTINAL INDIGESTION

Intestinal indigestion plays an important rôle in the disturbance of health, and has only of late years received sufficient consideration. There is an existing tendency to exaggerate the seriousness of the various ailments and to suggest methods of treatment, more especially operations for which there is rarely any necessity.

The intestines form a long tube about 25 feet or more in length, and are divided into small and large intestines. The small intestine, about 20 feet in length, comprises the duodenum, the jejunum, and the ileum, and the large intestine, about 5 feet in length, is divisible into the cæcum, the colon, and the rectum. Formerly any inflammation was diagnosed as enteritis, and ulceration was known as ulceration of the bowels, but now each portion of the intestines has its own definitely named disorders.

Intestinal indigestion produces more serious results than gastric dyspepsia, for it is in the small intestine that the chief work of digestion takes place, since in the intestines all varieties of

food undergo changes with a view of making them suitable for absorption. It is in the intestine that the juice of the pancreas, the bile from the liver, and the intestinal secretions are brought into contact with the food; so if the secretions are defective or the food is in an unsuitable condition to be acted upon by the secretions, intestinal indigestion is the inevitable result.

In a healthy digestion the chyme, or partially digested food, passes from the stomach through the pylorus into the small intestine, and mixes with the natural digestive fluids; but if the food from some previous defect of digestion is insufficiently prepared, an extra amount of work is thrown on the intestinal digestion, or the bolus of food passes onwards in an undigested condition, and acting as an irritant gives rise to inflammation and ulceration. The fact that food is not properly prepared for digestion does not necessarily cause inflammation, but it does so if any predisposition exists or if the irritation is of frequent repetition.

Now, the mucous membrane of the duodenum is arranged in folds to delay the too rapid progress of the food, and to give time to the digestive fluids to act on the food; but if the bolus, instead of being a soft, partially digested mass is a hard

and tough lump of food, the delicate lining of the bowel is easily injured, and the result is inflammation. It is in reality a simple sequence of events.

Another cause of inflammation is the passage of the poisonous products of firmentative decomposition which has taken place in the stomach. These products not only irritate and set up inflammation, but they infect the digestive secretions, and further, by backward extension through the ducts cause inflammation in the sweetbread, gall-bladder, and liver.

It is evident, therefore, that the inflammation, or ulceration, depends on the existence of antecedent indigestion, and that the cure of the disorder can only be effected by the removal of the primary cause, or in other words by the restoration of a healthy digestion; and unless this is done relapse must inevitably follow relapse, and even operative treatment will only transfer the trouble from one part to another part of the intestines.

The inflammation and ulceration which affect the other portions of the bowel are similar in character, so that the principle of treatment is the same in all cases; but when the large or lower bowel is affected, additional treatment is frequently necessary to remove any accumulation of waste product.

The failure of medicinal treatment to effect a cure is mainly due to the fact that both the patient and the doctor do not take a sufficiently serious view of the illness. As a rule the patient consults the doctor for recurring indigestion, and suggests or believes that a course of dieting, regulated by individual inclination, will suffice to remove the trouble. The doctor falls in with the patient's idea and prescribes a palliative treatment, which gives temporary relief. Then follows a relapse and a repetition of the same treatment, until the patient, weary of being always ill and never well, consents to submit to an operation for which there is not any necessity.

Treatment must be thorough if the disease is to be cured, for half-measures are sure to end in failure. The principle of treatment is to give rest to the intestinal digestion, and at the same time maintain the nutrition of the patient.

Any defect of the digestive processes antecedent to the intestinal digestion must be corrected, or otherwise, no matter how successful the treatment of the intestinal trouble may be, a relapse is the inevitable consequence. Rest in bed is an absolute necessity for a week, probably for a fortnight, and possibly for three weeks. Diet should be restricted for the first few days to fluids, which should be given at short intervals

and in fixed quantities. Milk as a rule is the most suitable food, and should be given diluted with Vichy water or lime water (2 parts of milk and 1 part of the diluent), according as there is a tendency to constipation or looseness of the bowels, so as to prevent the coagulation of the milk into lumps in the stomach. Four ounces of the diluted milk should be given every two hours from 6 a.m. to 10 p.m., and the same quantity at 2 a.m. This quantity roughly represents a pint and a half of milk, an amount which is insufficient for the maintenance of nutrition. The addition of plasmon or sanatogen to each alternate feeding gives further nutritive value to the food, and supplies the deficiency of nourishment. The increase of food must be gradual, and is regulated by the patient's progress. The idea of augmenting the amount of food on fixed days is unsound, as all patients are not constituted on one pattern, nor provided with identical constitutions; but as a rough guide, on the third or fourth day an egg may be beaten up with the milk at 12 noon and 4 p.m., and a tablespoonful of Fairchild's panopepton in a glass of water may be given as a substitute for the 10 a.m. and 8 p.m. feedings. At the end of the week Mellin's food may be added to two feedings of milk. About the tenth day farinaceous puddings may be added to the

dietary, and a couple of slices of bread-and-butter may be given, with a little weak tea. A little later pounded fish or meat put through a sieve may be given with luncheon and dinner, and by slow degrees a return to ordinary food will complete the dietetic part of the cure.

All aperient medicines are to be avoided, but the bowels should be washed out with an injection of warm water every third day. At the end of the first week a dessert-spoonful of Angier's petroleum emulsion, or B. & W.'s paroleine, or A. & H. chrismol, should be given at 11 a.m. and 7 p.m. Should there be much pain, a teaspoonful of Schacht's bisedia may be given in a wineglass of water at intervals of four hours, or 5 to 10 drops of P. D. & Co.'s chlor-anodyne may be given in a wineglass of water once or twice during the day. Warmth should be applied over the whole abdomen by the application of hot fomentations, which, however, require to be frequently renewed, and the necessary changing is often irksome to the patient. Antiphlogistine or pulticine are useful substitutes. Tonics and a change of air complete the treatment. This outline of treatment, subject to modification or alteration to suit individual requirements, is applicable to all cases of inflammation of every part of the small and large intestines, provided only

the fact is remembered that any antecedent trouble of digestion must be neither overlooked nor disregarded. It is quite useless, for instance, to treat a colitis by this method so long as the biliary and pancreatic secretions are defective and unhealthy; for as soon as the treatment ceases, the originating or antecedent cause starts afresh the disease.

## DUODENITIS

Duodenitis, or inflammation of the first portion of the small bowel, is a frequent ailment, but one which, until recent years, has not received recognition. It is seldom a primary disease, but usually is an extension of inflammation from the neighbouring structures. It is generally associated with antecedent gastric trouble, but may depend on an extension of inflammation from the liver, gall-bladder, or sweetbread.

The diagnosis as a rule is not difficult, except for the fact that the disease usually co-existing with gastritis may be easily mistaken for that complaint. It is recognized by the appearance of the symptoms some hours after meals, and by the relief usually afforded by taking food.

The treatment does not present any difficulty,

provided the nature and cause of the trouble are kept clearly in mind. The antecedent disorder primarily must be remedied, or the disease either resists treatment or has a recurrence. The cutting away or the circuiting of the bowel naturally removes the duodenitis, but only substitutes for it an inflammation of another portion of the bowel, and so the result of the operation only is an imaginary and not a real benefit.

Duodenitis, as a matter of fact, is far easier to cure than gastritis, since it is not till the pylorus relaxes and opens that the food comes into contact with the inflamed bowel, and acts as an irritant. If, therefore, the food given be readily absorbable or easily digestible, very little, if any, refuse need pass out of the stomach to excite irritation, and the inflamed duodenum is kept at rest. The inflammation may be, and usually is, of long standing, so the application of antiphlogistine, or of a series of flying blisters, or even of a stimuluting embrocation, will diminish or remove the inflammatory condition. Bandaging with a perforated rubber bandage assists the cure, but must not be allowed to exercise too great a pressure, nor to be worn for too long a period without removal.

The duodenitis subsequent to inflammation of the liver, or gall-bladder, or sweetbread, is treated

similarly to the duodenitis following gastritis, but, further, requires that the antecedent trouble should receive appropriate treatment.

## COLITIS

Colitis, or inflammation of the colon, is a familiar disease which, owing to the intractability of the cure, has been exaggerated into a special complaint; but in reality the inflammation does not differ from the inflammatory condition of any other portion of the intestines.

The disease chiefly is characterized by abdominal pain of an intermittent character, by irregularity of the natural function of the bowel, and by passage of glairy mucus on the relief of the bowels. The pain is simple colic, which is caused by the efforts of nature to remove the mucus. The irregular action of the bowels—invariably constipation—is due to the exhaustion of the expelling power from the repeated attempts to free the bowel of the mucus. The presence of the mucus, therefore, constitutes the disease. Mucus is a natural secretion of the bowel which mixes with, lubricates, and assists the onward progress of the food. The existence of mucus under ordinary circumstances would not produce disease, so some defect must exist to account for the changed condition of the

mucus. The defect must be either in the lining membrane of the bowel or in some part of the digestive mechanism antecedent to the colon; and since it has been proved that the mucous membrane practically is unaffected, it follows that the defect is in one of the earlier or antecedent processes of digestion. Searching backwards for the cause, it is found invariably that the defect originates in the liver or sweetbread, or in both of these organs.

The treatment consists in the cure of the cause, or the removal of the defect. It may be necessary primarily to alleviate the symptoms by freeing the bowel of the mucus, and for this purpose small doses of castor oil—one teaspoonful—combined with one or two drops of tincture of opium to mitigate the pain, are given every four hours until the bowel is cleared of all constipation. Injections of warm water assist in the result, but lavage of the bowel as a routine method of treatment is based on a wrong principle. Making an opening into the bowel or passing a tube into the appendix with a view of flushing the bowel cannot be too strongly opposed, not only as useless, but as unsound and unscientific procedures, since they merely afford temporary relief to the symptoms and do not touch the cause of the disease, which exists in the liver or sweetbread.

It is a reasonable deduction that the mucus in the colon is maintained in a normal condition and consistency by the aid of the secretions from the liver, sweetbread, and small intestines, and conversely that if the mucus in the colon be excessive, glairy, and in an unhealthy condition, the secretions from the liver, sweetbread, and small intestines are defective in either quantity or quality. If this suggestion be correct, then treatment necessarily must consist of remedies which supply the deficiency or improve the quality of the secretions. A pancrobilin pill which gives good results is composed of—

| | |
|---|---|
| Inspissated ox bile ... ... ... | gr. $1\frac{1}{2}$. |
| Pancreatic extract ... ... ... | gr. $\frac{1}{4}$. |
| Compound extract of colocynth ... | gr. $\frac{1}{2}$. |
| Sulphate of quinine ... ... ... | gr. $\frac{1}{2}$. |
| Extract of taraxacum ... ... | gr. 1. |

One pill to be taken three times a day before meals.

Another reliable preparation is a choleokinase ovoid composed of—

| | |
|---|---|
| Ox-gall... ... ... ... ... | gr. $3\frac{1}{2}$. |
| Kinase ... ... ... ... ... | gr. $\frac{1}{10}$. |
| Secretin ... ... ... ... | gr. $\frac{1}{10}$. |

Two ovoids after luncheon, dinner, and at bedtime.

The disease usually is of long standing, and therefore treatment necessarily must be a slow

process; but it is not wise to adhere for too long a period to one remedy. A change should be made as soon as there is any evidence of either backward or want of progress, but not on any account should the attempt be made to force a result. Small doses of calomel often prove beneficial, and the following prescription is of use:

| | |
|---|---|
| Calomel ... ... ... ... | gr. $\frac{1}{20}$. |
| Powdered ipecacuanha ... ... | gr. $\frac{1}{80}$. |
| Bicarbonate of soda ... ... ... | gr $\frac{1}{2}$. |
| Subnitrate of bismuth ... ... | gr. 1. |

Fiat pulvis. One to be taken every two hours.

Messrs. Parke Davis and Co. stock a chocolate tablet, C.C.T., No. 161, of this prescription under the name of Infant's Corrective.

When there is not any mucus passed from the bowel, the disinfection of the intestinal canal should be begun, and for this purpose few remedies are as good as agarase—a combination of agar-agar and Bulgarian lactic ferment. Two tablets should be taken three times a day at meal-times.

If instead of the usual constipation there should be diarrhœa, large doses of the carbonate of bismuth—20 grains at least—with 5 to 10 drops of P. D. & Co. chlor-anodyne every four hours give speedy relief.

It is customary to associate colitis with neurasthenia, and to attribute the occurrence of the

disease to a lack of nerve stability; but in reality it is the antecedent defect of the colitis that is the origin of the neurasthenia. With the removal of the defect the neurasthenia slowly and gradually disappears, and ceases to give any further trouble. A change of scenery and associations, aided by a short course of tonics according to the idiosyncrasy of the individual, completes the cure.

## TYPHLITIS

Typhlitis practically is an obsolete disease, since every case now is looked upon as appendicitis; but the occurrence of inflammation of the cæcum, independent of any appendicular trouble, has an undoubted existence. An acute attack presents almost similar symptoms to those of appendicitis, making the differentiation of diagnosis a difficult problem; but as a rule the pain and tenderness are restricted to the right iliac fossa, and are not experienced in other parts of the abdomen, whilst the shape of the swelling is more oblong than in appendicitis.

Accuracy of diagnosis only is of importance as regards the advisability of operative interference, since the treatment of both typhlitis and appendicitis, provided the idea of operation is not entertained, is carried out on identical lines. Hot

fomentations or poultices or antiphlogistine are applied over the seat of pain, and small repeated doses of opium are administered to give rest to the bowel. In an acute attack food should be withheld as long as reasonably possible, or else given predigested or so readily absorbable as not to leave any residue to set up irritation. When the disease is of long standing, the inflammation is best treated by gentle inunction of iodex ointment, or painting the area of pain with liniment of iodine, or by the application of a series of small flying blisters.

Adhesions sometimes form after a severe attack, causing pain whenever the bowel is distended, and are most difficult to cure; but the iodide of potassium and soap liniment occasionally does good. An operation presumably would free the adhesions, but the possibility of the formation of fresh adhesions is not a strong recommendation.

## APPENDICITIS

Appendicitis is an inflammation of the vermiform appendix, which is a small secreting tube of about 2 to 6 inches in length, with a diameter about equal to that of a goose quill, attached to the lower part of the cæcum. The tube opens into the bowel with a valvular slit, which

remains collapsed, or closed, during inactivity of the secretion, and, as first pointed out in the columns of the *Lancet* by the writer, secretes an oil for the lubrication of the bowel and to assist the onward progress of the unabsorbed portion of the food. The direction of the flow of the secretion is from within outwards—*i.e.*, from the tube into the bowel, so that any bacillus or foreign body which enters the tube would have to travel against the current of the secretion. Science has demonstrated the possibility of this manœuvre, but the probability of this occurrence is a strong tax on the power of imagination. A more simple and perhaps common-sense explanation is that the lining of the tube, either from irritation or inflammation, swells and causes a block, so that the secretion accumulates and leads to distension of the tube, until the inward pressure gives rise to circulatory stagnation, necrosis of the structures, and the formation of an abscess. The inflammation is not of any special character, and does not differ from any other inflammatory process in any other part of the body. It begins with active congestion, which, if unchecked, runs its course and ends either in subsidence or in suppuration. The initial or actively congested condition may, as a result of treatment, subside completely, or merely may diminish and leave a chronic congested

condition very prone to take on renewed activity on the slightest provocation or irritation. It may, however, run a sharp and rapid course, causing necrosis or destruction of the structures in the centre of the inflamed area, and give rise to an abscess.

The causation of the disease varies, but since the result invariably is the occlusion of the tube, is not of any practical importance.

The diagnosis usually is a matter of simplicity, though sometimes a matter of difficulty, but the haphazard method of diagnosing every pain in the right iliac fossa as due to appendicitis is neither a satisfactory nor a scientific solution.

The symptoms chiefly indicative of the disease are pain, cutaneous sensitiveness, deep-seated tenderness, and muscular rigidity, but since these symptoms may exist without any disorder of the appendix, they do not afford any reliable evidence for a positive diagnosis. The presence of a tumour should be a definite sign of the disease, but is not so, since a phantom appendix caused by muscular contraction is not an unusual occurrence. The most distinguishing feature, perhaps, is transmitted pain, which is produced by movement of the intestines, so that pressure on the left iliac fossa produces pain and discomfort on the right side. The cutaneous sensi-

tiveness is more often absent than present, but if noticeable adds considerable corroboration to the nature of the disease. The deep-seated tenderness is well marked in cases of abscess, but usually is not experienced in cases of gangrene. It may result, however, from inflammation of any of the structures in the immediate neighbourhood of the appendix, and so cannot be reckoned on as a sure indication of appendicular trouble. Muscular rigidity is considered a reliable sign of the disease, and undoubtedly is an indication of underlying inflammatory action, but not of necessity of the appendix.

Treatment varies according to the severity of the disease and to the individual views of the doctor in attendance, or of the surgeon in consultation. The first point for consideration is the necessity or otherwise for operative interference, and considerable diversity of opinion exists as regards the advisability for an immediate operation, a deferred operation, or treatment without an operation. The excision of a healthy appendix is not in itself a serious operation, and is attended with very little risk to life; but since the appendix is the source of the lubrication of the bowel, the removal leads to a subsequent condition of constipation with all its associated evils. Sufficient importance is not attached to

the result of the operation, or the advocacy of indiscriminate removal would find less favour. The necessity for an immediate operation in an acute attack depends on the urgency and progressive nature of the symptoms. The existence of an abscess or the development of gangrene is a good and sufficient reason for an operation without any delay; for the former is likely to burst and give rise to a general peritonitis, whilst the latter inevitably leads to a toxæmia, and from both of these causes the life of the patient is likely to be forfeited within a very short time. An operation then practically is the sole chance of recovery, and becomes an operation of necessity. The chief indication in favour of an immediate operation is a steady rise in the frequency of the pulse-rate, even should the other symptoms show an apparent improvement, since a small, quick pulse, especially if not in proportion to the rise of temperature, is a sure danger signal of impending suppuration. A sudden severe exacerbation, or a sudden cessation of pain, portends trouble from either perforation or gangrene of the appendix, and necessitates an operation.

Medical treatment without an operation yields very satisfactory and successful results, and possesses the additional advantage of leaving the patient in possession of the appendix. It com-

prises absolute rest, not only to the body, but to the bowel, and the reduction or removal of the inflammation. Confinement to bed, abstinence from food, the administration of opium, and the application of fomentations, poultices, etc., are the main features of the treatment. A great outcry has been raised against giving opium on the grounds that it obscures the symptoms, masks the progress of the disease, and increases the difficulty of recognition of the necessity for an operation. The first and second reasons scarcely merit serious consideration; for if opium be a beneficial remedy, it surely cannot be reasonably argued that a patient should be compelled to submit to unnecessary pain, or that the disease should be allowed to progress unchecked, solely with a view of simplifying the diagnosis or of facilitating the decision of the necessity for an operation. The protest against giving opium undoubtedly has increased the number of necessary operations, since it is in the early stage of inflammation before suppuration has set in or gangrene has developed that opium exercises a beneficial effect. To await results without making any attempt to check the progress of disease practically is to make an operation a necessity, whereas the judicious administration of opium—the earlier, the better—is to reduce the necessity for operation

to a small percentage of cases. Anyone adopting the principle of the early administration of opium will be astonished at the good results he obtains, and will learn to regard appendicitis as an ordinary condition of inflammation amenable to simple treatment.

Opium should be given in liquid form, and not in a pill or tablet, and should be repeated not by any time-regulation, but by the effect produced and by the progress of disease. The fact that it removes or lessens pain—one of the chief signs of urgency—only makes it the more imperative to keep a careful observation of the associated symptoms.

An increased frequency of pulse of a weak and compressible character, a series of rigors, an irregular temperature, persistent vomiting, and the abdominal face, are all indications for an operation, and these signs are not influenced by the administration of opium.

Warmth should be continuously applied over the seat of pain or of tumour by the application of poultices, or compresses, or one of the preparations like pulticine or antiphlogistine. A hot-water bottle is not of any use, and preference is given to compresses of hot salad oil.

Food should be withheld as long as is reasonably possible, and then should be given in small

quantities in liquid form. Panopepton—a combination of beef and wheat—in sherry, is a useful preparation, as one tablespoonful suffices for a meal. Bendle's nutrovin—consisting of somatose in port wine—is another useful meat food. Milk, unless peptonized, is likely to cause irritation, and should be avoided during the acute stage of inflammation. Sips of hot water may be given to quench the thirst, and small quantities of the different jellies may be allowed to dissolve in the mouth. The restorative soup—made from veal, mutton, and beef—is a sustaining food. The question of starting the treatment with a dose of aperient medicine is of great importance; but since the principle of treatment is to afford rest to the bowel, it is better to avoid doing so during the acute stage of the attack. The idea of giving castor oil or divided doses of calomel should not be entertained, as both these remedies induce peristaltic action of the bowels. The suggestion has been advocated to give salad oil or liquid paraffin — as a rule the existence of vomiting renders the administration a useless procedure—and may be adopted without fear of doing any harm, but it is questionable if it does any good.

Recurrences, after apparent recovery, are the rule and not the exception, and are due to the fact that the original inflammatory condition

never has been completely cured, so the smallest irritation revives and re-excites the inflammation. The acute inflammatory attack has left behind a condition of congestion, which, becoming more or less chronic, undermines the health of the individual and renders the patient less fit to cope with any future exacerbation. The removal of the appendix during the quiescent stage is a simple operation, practically free from danger; but it is an operation of expediency and not of necessity, since continuance of treatment would, by removing the congestion, cure the disease, and there would not be any reason for, nor probability of, a recurrence.

Chronic, persistent, or neglected appendicitis, requires more active treatment. The bowels should be kept well lubricated by means of chrismol paroleine, salad oil, or a petroleum emulsion. Counter irritation by the application of a series of small flying blisters, or by friction with stimulating liniments, will assist in the removal of the existing congestion, whilst later on carefully applied vibratory massage, a weak electrical current, and judiciously regulated exercises, will complete the cure.

Experience has recognized the fact that pain in the appendix sometimes is produced by the existence of neuralgia or rheumatism, so every

intractable case first should be treated by a course of iodides, salicylates, or nervine tonics, before deciding on the necessity for an operation. The following pill deserves a fair trial:

| | | |
|---|---|---|
| ℞ | Sodii (vel ferri) arseniatis ... ... | gr. $\frac{1}{12}$. |
| | Codeinæ (vel extracti cannabis indicæ) ... ... ... ... | gr. $\frac{1}{8}$. |
| | Extracti belladonnæ... ... ... | gr. $\frac{1}{6}$. |
| | Extracti nucis vomicæ ... ... | gr. $\frac{1}{4}$. |
| | Zinci valerianatis ... ... ... | gr. I. |

Fiat pilula. Coat. One to be taken three times a day after meals.

Ten grains of aspirin may be taken at bedtime with a hot drink with a view of combating any rheumatic tendency.

During convalescence a change to the country or the seaside will fortify the system, and minimize the likelihood of any recurrence.

## DIARRHŒA

Diarrhœa of indigestion generally is due to the presence of undigested food in the bowel, and usually is checked by the removal of the cause of the irritation. A tablespoonful, more or less, of castor oil, or a rhubarb draught, to which a few drops of opium are added, or any simple saline aperient medicine as pyretic saline, will effect the purpose, provided the stomach is quiescent; but

if either much nausea or vomiting be present, small and repeated doses of calomel will yield a better result. The condition, either from neglect or otherwise, may have become chronic, and then will require soothing and astringent remedies to allay the irritability of the bowels. Chalk mixture usually suffices, but if ineffective is made more effective by the addition of 10 grains of aromatic chalk powder and 20 drops of paregoric to each dose of the medicine. Salicylate of bismuth—10 grains—may be substituted for the aromatic chalk powder should the motions have any offensive odour. The liquid extract of bael fruit (Squire's), teaspoonful doses every four hours, gives good results if the motions contain mucus or are tinged with blood.

A household remedy which sometimes succeeds when other remedies fail consists of 1 tablespoonful of raw arrowroot mixed in a teacupful of *cold* water, to which 1 teaspoonful of brandy is added, and given to the exclusion of all other food every four hours, until the cessation of the disturbance. Diarrhœa may be caused by motor insufficiency of the stomach, since the food ineffectively prepared by the action of the gastric juice enters the intestine as an indigestible bolus, and sets up irritation. The recumbent position for an hour after each meal will lessen the severity of

the attacks, but naturally will not cure the trouble so long as the gastric defect remains in existence.

Nervous diarrhœa frequently is a source of great discomfort, as it takes place immediately after the intake of any food. One or 2 drops of laudanum, in combination with 1 or 2 drops of tincture of nux vomica, added to 1 teaspoonful of cinnamon water, taken before the meal, usually check this condition, and assist the improvement of the general health. Hot fluids, either as drinks or food, should be avoided, as they aggravate the trouble.

The diarrhœa of infants requires special consideration, as it is the chief cause of the high rate of infant mortality. The food for babies naturally is mother's milk, but when for any reason it either disagrees or is not given, and weaning becomes a necessity, it requires careful selection, since prepared foods frequently give rise to diarrhœa. An acute attack of diarrhœa should not be hastily checked, since it is Nature's remedy to remove the source of irritation. It is often wise, as a preliminary measure, to begin treatment with a small dose, according to the age of the infant, of castor oil, or to give calomel in small divided doses. Food should be withheld for about twenty-four hours, but a little water sweetened with lactose may be given to quench the thirst. Vomiting, which usually is present, enforces this restriction.

Should there be any danger from collapse, an injection of saline solution should be given by the bowel. Lately the injection of sea-water plasma, which is said to be twice as active as normal saline solution, has received strong advocacy, and has been employed subcutaneously with very gratifying results.

Fomentations should be applied over the abdomen, but as they are not easy of application, gentle friction by circular movements with warmed olive oil is a good substitute. The abdomen subsequently should be enveloped in flannel.

As soon as the sickness has ceased and the diarrhœa is less active, careful dieting should be begun, first with egg albumen water, made by beating up the white of a raw new-laid egg and adding to 8 ounces of cold plain, dill, or cinnamon water, sweetening with a small quantity of lactose, and then gradually adding a little fresh milk.

As a milk food the following is a good preparation for an infant of six months of age:

| | |
|---|---|
| Fresh milk ... ... ... ... | oz. iv. |
| Water ... ... ... ... ... | oz. i. |
| Cream ... ... ... ... ... | dr. ii. |
| Lactose ... ... ... ... | dr. i. |

The amount to be given at intervals of three hours.

The addition of 2 grains of citrate of soda dissolved in the water aids the digestibility of

the food. In the event of threatened collapse, 2 to 5 drops of brandy should be given with each feeding. It is a wise precaution to give the stimulant in a small portion of the food lest the child declines to finish the whole amount. The medicinal treatment is governed more or less by the character of the evacuations. If the motions are frequent and loose, but free from mucus or blood, salicylate of bismuth—1 grain for each year of the child's age—in a little mucilaginous sweetened and flavoured water, given every two or three hours, usually proves a reliable medicine; but if the motions contain mucus, and are tinged with blood, then one of the preparations of mercury yields better results. The old-fashioned bichloride of mercury solution—1 grain dissolved in half a pint of water—given in teaspoonful doses every two hours—is as efficacious to-day as it was over half a century ago. Grey powder, $\frac{1}{6}$ of a grain for an infant of six months, given every two hours, is a useful remedy. The infant's corrective chocolate tablet (P. D. & Co., No. 161), which often gives a good result, comprises:

| | |
|---|---|
| Calomel ... ... ... ... | gr. $\frac{1}{20}$. |
| Powdered ipecacuanha ... ... | gr. $\frac{1}{60}$. |
| Bicarbonate of soda ... ... ... | gr. $\frac{1}{2}$. |
| Subnitrate of bismuth ... ... | gr. 1. |

The tablet, crushed or otherwise, to be given every four hours.

The following mixture given after meals aids the digestibility of the food:

| | |
|---|---|
| Citrate of soda ... ... ... | gr. xxx. |
| Bicarbonate of soda ... ... ... | gr. xxx. |
| Glycerine ... ... ... ... | dr. ii. |
| Dill water ... ... ... ... | ad oz. ii. |

One measured teaspoonful after each feeding.

In a severe case, when a child is collapsed, and is in danger of dying unless the diarrhœa be checked, very small doses of opium should be given, and are best administered by hypodermic injection; $\frac{1}{60}$ of a grain of morphia combined with $\frac{1}{1200}$ of a grain of atropine should be given, and, if necessary, repeated in one hour. The fact that children take opium badly must not deter the medical man from giving it, assuming the case apparently is hopeless, for with this treatment practically hopeless cases have been known to make a good recovery.

## OPERATIONS FOR DYSPEPTIC DISORDERS

Operations for dyspeptic disorders have of late years increased in frequency, and have been extolled as the latest scientific and the most successful treatment of these ailments; but they are

seldom necessary, and certainly require more convincing evidence for their justification.

An operation is a legitimate method of treatment, but as the aim of science is to cure with the least possible hurt to the patient, it should be restricted only to those cases which have failed to respond to simple and ordinary treatment. The advocacy of early operation is quite reasonable from the operator's, but is less rational from the patient's, point of view; primarily, because an operation usually is unnecessary, and, secondly, because an operation is not always attended with a successful result.

The removal of several inches, and sometimes of feet, of bowel is a severe measure for the cure of a simple, though perhaps obstinate, ailment; but the suggestion to remove a large portion of bowel because it is considered to be the part most favourable for the development of bacteria hardly merits consideration, whilst the recommendation to remove a healthy appendix as a safeguard against the possibility of a future attack of appendicitis demands the strongest condemnation. The idea of opening the appendix with a view of flushing the bowel is an extravagant notion, which cannot meet with approval.

The sole advantage of an unnecessary operation is that the eye may see what the mind has been

unable to diagnose; but as a rule, when an uncertainty of diagnosis exists, the information gained is of little practical value, for there is invariably either not anything to operate on or the disease is so extensive that an operation would not give any good result.

# CONSTIPATION

## CONSTIPATION

CONSTIPATION is not a new creation nor a fad of recent date, but a complaint of civilization. It affects all classes of men, women, and children. It may exist almost from birth, and may prove a source of trouble to those who have reached a ripe old age. It affects the rich and the poor, the idle and the industrious, the brain-worker and the manual labourer. It is responsible for most of the minor ailments of life. It causes numberless varieties of aches and pains, and produces endless forms of discomfort. It accounts for many an irritable outburst of temper, is a frequent explanation of so-called attacks of nerves, and is a common cause of nervous prostration. It lies at the root of the tired feeling after any exertion, produces faintings, giddiness, and palpitation, and creates the dread of impending evil. It lays the foundation for the development of hysteria, hypochondriasis, and melancholia, and gives rise to burning flushes, clammy sweats, hot head, and cold extremities. It affects the

brain, causes buzzing in the ears and noises in the head, and interferes with all the natural functions of the body. It is a slow and insidious complaint, and often exists for years before it undermines the health sufficiently to attract attention.

It is a cause of ill-health, but it is also a result of disease, and the differentiation between cause and result is a matter of great importance; for if the result be mistaken for the cause, the error of recognition will inevitably lead to failure of treatment.

**Definition.**—Constipation is an accumulation of waste material in excess of the proper amount. The absence of a daily evacuation does not necessarily mean a condition of constipation, for the bowels may be practically empty of solid refuse, nor does a daily relief negative the existence of constipation, for the amount evacuated may be of insufficient quantity. It is the retention of waste material which constitutes constipation. It frequently happens that the more loaded the bowels the greater the regularity of action, since room is required for the additional amount of waste material, and it also happens that an accumulation produces irritation and leads to a frequency of motions almost, if not quite, amounting to diarrhœa. The existence or absence of constipa-

tion, therefore, can be definitely determined only by examination.

**Diagnosis.**—The percussion note revealed by placing one finger on the abdomen and smartly tapping it with one of the fingers of the other hand is clear and resonant when the intestines are empty, but dull when any accumulation exists in the bowels. Resonance may be elicited in spite of an accumulation if the intestine is distended with flatulence, whilst the dull note of percussion may be produced by causes other than constipation. The trained ear can usually recognize whether the dull note is due to accumulation or any other cause, but in any case of doubtful nature manipulation will insure an accurate diagnosis. The abdomen being steadied, firm and continuous pressure is made with the tips of the fingers, and if the dulness results from the existence of an accumalation of waste material, a distinct indentation is left after the removal of the pressure. This simple test affords a positive and reliable diagnosis, since there is not any other condition on which pressure leaves an indentation. When, however, the bowels are but partially loaded, and are, at the same time, considerably distended by flatulence, this test is not so easy of application; but if the knees are well drawn up and the shoulders raised, firm pressure with the

palm of the hand will force away the flatulence and allow the finger-tips to grip the accumulation. The dull note of obesity may lead to an error of diagnosis, but this possibility always can be avoided by pushing aside the layers of fat before trying the percussion resonance.

**Progress.** — The progress is a continuous progression, beginning with an insufficiency of evacuation and irregularity of relief, until the gradual accumulation becomes a mass of waste material, which, undergoing decomposition, sets up a blood-poisoning with all the evil consequences.

The amount of waste material primarily depends on the quantity and variety of the food, and is the ultimate result of the process of digestion. The food, first insalivated and swallowed, is churned in the stomach, then passes into the intestines, and is pushed onwards by muscular movements until the undigested and indigestible residue enters a sacculated portion of the bowel ready for expulsion. This mass excites the irritability of the nerves in that region, creating a call of nature which, if responded to, results in an action of the bowels. A voluntary effort of contraction of the abdominal muscles assists the process of expulsion and completes the unloading of the bowels.

It is a simple matter to understand that any defect in the mechanism of digestion must lead to stagnation or insufficient evacuation of the residue, and that the continuance of the existence of the defect must lead to a greater accumulation, until the retention of the residue blocks several, and sometimes many feet of bowel, converting a large part of the intestinal canal from a hollow tube to a semisolid or even solid coil. The amount of residue which may be, and often is, retained may be enormous, amounting to a good many pounds of effete material, and this unnatural collection must seriously interfere with the maintenance of good health. The residual mass, either by itself or by the flatulence of decomposition, stretches the bowel and gradually weakens the muscular contraction, until the power of onward propulsion is greatly diminished or altogether lost, and the constipation assumes an habitual or chronic condition. The mechanical effect of the accumulation deranges the pelvic circulation, causing congestion, and gives rise to piles and uterine disorders, whilst the absorption of the products of decomposition into the blood leads to improper nourishment of the different organs of the body and a deterioration in the quality of the secretions.

The far-reaching effects of constipation make

the prevention of the complaint of even greater importance than the cure of the disease.

**Prevention** means the avoidance of an accumulation, usually the result of neglect. The call of nature should always receive attention, for repetition of neglect blunts the sensibility of the nerves, and the call ceases to come into existence, or needs stimulation. It may be accepted that a daily relief is an essential corollary to good health, though a few individuals do not seem to need a daily evacuation, so it is wise to endeavour to regulate the action of the bowels by the cultivation of a habit. It is quite unimportant what hour is fixed upon to solicit relief, so long as it is a fixed time, from which there should not be any deviation. Habit works wonders, and will help to establish a regularity of action without the aid of medicine, but if not, a morning draught or an evening pill should be taken without hesitation. Considerable prejudice exists against the habit of taking drugs to produce an action of the bowels; but when the choice rests between constipation and taking medicine, there cannot be any doubt to which to give the preference. A gentle laxative drug or a mild aperient medicine cannot be more harmful than the early morning cup of tea, the eating of fruit, or the after-breakfast smoke of tobacco. A sedentary life favours sluggishness,

and as a rule requires the assistance of a simple dinner-pill, or the daily administration of a mild laxative remedy.

**Classification.**—For the convenience of consideration, constipation is divisible into three classes: (*a*) simple, (*b*) habitual, and (*c*) chronic; according to the existing condition of the muscular peristaltic action of the intestines. For the simple variety the peristaltic power is intact, whereas in the habitual it is insufficient, and in the chronic it is impaired to such a degree as to be devoid of any propelling force.

## SIMPLE CONSTIPATION

Simple constipation is a derangement in which the bowels are not relieved of the waste material which should be removed by a natural evacuation. It is most frequently the result of sluggishness in the small intestines, and this leads to a dryness of the partially digested food by the absorption of the fluid from the food. It may also result from a dryness of the mucous membrane, as occurs in a febrile attack by a diminution of the natural lubrication of the bowels, so that there is a retardation of the onward progress, and a subsequent absorption of the fluid portion of the food. The delay in the small intestines is usually

caused by a deficiency in the flow or by an altered condition of the consistency of nature's aperient—the bile. Another cause is spasmodic contraction of some part of the intestines, resulting from irritation, usually caused by the presence of indigestible or undigested food.

The inactivity of food progression and the consequent dryness lead to the formation of scybala, lumps varying in size from a marble to a tennis ball, and these lumps cannot be always evacuated through the exit from the bowel.

Treatment necessarily is regulated by the cause and the position of the accumulation. The administration of a pill to dislodge an accumulated mass in the lowest portion of the bowels is as useless as is an enema to remove an accumulation in the small intestines, but both the pill and the enema are useful remedies under suitable conditions.

A mild case of simple constipation in which there is a deficiency of fluid in, or, in other words, a dryness of the contents of the bowels, is often relieved by drinking a tumbler of water, hot or cold, according to preference. The efficacy of this remedy is increased by adding to it 1 teaspoonful of pure glycerince well stirred up, as it will not dissolve, and the addition of the

juice of half a lemon or lime to remove the otherwise mawkish taste of the beverage. A cup of hot coffee is sometimes more efficacious than the lemon, glycerine, and hot water, especially with delicate persons, as it stimulates the nervous system and gives the necessary fillip to insure an evacuation. The eating of fruit, of which oranges are the best, often induces a slight purgative result, but the choice of the fruit depends on the idiosyncrasy of the individual. An apple is sometimes more effective, whilst prunes, tamarinds, and bananas have all been credited with the production of successful results. A homely remedy is senna tea, which is made by infusing a tablespoonful of senna leaves, tied up in muslin, for ten hours in a cup of cold water, and then warming for use. The addition of a little liquorice increases the value of this remedy. Sometimes senna pods, from seven to twelve, are made use of instead of the leaves. Another simple remedy is a wet compress over the abdomen. A piece of flannel moistened in water, but not too wet, is fastened over the abdomen, covered with a piece of dry flannel, and worn for two or three hours during the day. If these simple remedies fail, then medicines become an advisable necessity, bearing in mind that the milder the remedies the better the ultimate results. Cascara is a useful drug, but

the quality is subject to considerable variation. Kasak (Squire), the dose of which for an adult is one tablespoonful is a good preparation, but if a tablet be prepared a 2-grain cascara tabloid (B. W. & Co.) is a reliable medicine. Many of the cascara pills are quite inert, and pass through the bowels without producing any result, so it is always advisable to specify the name of the chemist, or to prescribe a recognized preparation. Phenolphthalein, the chief ingredient of purgen, aperitone, laxons, etc., possesses a distinct aperient action, but has the drawback of being rather sudden in its action, and also is said to favour the occurrence of hæmorrhoids. It is only suitable for occasional use, as it has an accumulative effect, and sometimes gives a pink tinge to the saliva and other secretions.

A temporary interruption to the flow or a thickening of the bile is best relieved by a 2-grain extract of socotrine aloes pill, to which may be added ¼ grain of podophyllin or 1 grain of euonymin with 2 grains of extract of henbane to prevent any griping pain. The addition of ½ grain of powdered ipecacuanha enhances the value should there be any indigestion.

Any accumulation in the upper part of the large intestines is dispersed most readily by a dose—a dessert-spoonful or more—of castor oil, one of

the safest and most efficient aperients in general use. The unpleasantness of the taste is easily disguised in several ways, one of the best of which is to take it in black coffee, after first well rinsing the mouth with coffee. The capsules are unsatisfactory, though it is difficult to understand the reason of their inefficiency. Many tasteless varieties, of which laxol is the best, are procurable, but the absence of taste is more or less a matter of faith. Powdered castor oil (Demuth), the dose of which for a child is a dessert-spoonful made into an emulsion with milk, tea, cocoa, or broth, and given in a teacupful of the fluid, is almost tasteless, and is readily swallowed by children. Rhubarb, in one form or another, also has a good effect, but tends to cause subsequent constipation.

The accumulation in the lowermost end of the bowels is best removed by an injection of soap and warm water, or, in stubborn cases, of oil and water. The selection of a suitable apparatus is a matter of importance. The ordinary syringe, consisting of a rubber-ball from which two lengths of rubber-tubing proceed—one to go into the basin, and the other to convey the fluid into the bowel—is the one in most constant use, but is not satisfactory, as the flow, instead of being continuous, is in a series of jerks. The douche can—consisting of a glass, earthenware or japanned reser-

voir, with an outlet below, to which a piece of rubber-tubing is attached—is the best and most simple of all appliances. The force of the injection is regulated by a stopcock attached to the lower end of the rubber-tubing, and also depends on the height at which the can is placed or hung above the level of the patient. There are many other varieties of syringes, and amongst them Dr. Éguissier's irrigateur, though costly, is the best; but whatever kind of syringe is used, it must be reserved for the one purpose, since a change of nozzle is not a sufficient precaution to prevent infection.

Flushing of the bowel is effected by lubricating the nozzle with K.Y. jelly, inserting it within the passage, and allowing the water to flow by turning on the tap, and is used more with the view of softening than washing away the accumulation; but an enema requires a certain amount of skill or practice to effect its purpose. The nozzle—first well lubricated with oil, vaseline, glycerine of borax, or, best, by Messrs. van Horn and Sawtell's K.Y. lubricating jelly—is gently inserted into the passage whilst the individual is lying on the left side with the knees well drawn up towards the chest. The tap is turned on, and the injection slowly given until three to four pints have found their way into the bowel. The desire to eject the

fluid before the full amount required has been injected is sometimes intense, and is frequently accompanied with sharp, colicky pains. The flow should then be checked by lowering the douche-can or turning off the tap; and firm pressure by the hand, covered with a towel, should be applied to the exit; or the two buttocks may be squeezed together, or one or two fingers may be inserted alongside the nozzle, to cause contraction of the sphincter muscle until the cessation of the spasm; and then the injection should be continued until a fresh spasm again calls for a rest. The effect of a properly administered enema extends higher than the fluid has reached, for it excites by the pressure within the bowel peristaltic contraction, and so causes a forcible expulsion of the injection, together with the contents of the bowel. One injection is seldom sufficient to clear the bowels, and the enema may have to be repeated several times at suitable intervals. An enema of water or of soap and water sometimes fails to dislodge the accumulation, and then it is a good plan to give an oil injection; but, as oil does not mix with water, a "sandwich enema" is given by first injecting half a pint or so of water, then an injection of oil or oil rubbed up with gruel, and subsequently another injection of water.

Friction of the abdomen in the early morning

often encourages a natural evacuation. Rolling a bag of shot—once a common practice and still sometimes advocated—should not be done, as it is attended with a risk of causing injury to the underlying structures.

Sometimes simple constipation depends on a spasm of the bowel, and is due to muscular contraction set up by some source of irritation. Aperient medicines aggravate this condition, unless combined with small doses of opium or belladonna to release the spasm. Vibratory massage frequently cures this complaint after half a dozen applications.

## HABITUAL CONSTIPATION

Habitual constipation, in which the peristaltic muscular power is insufficient to propel onwards the contents of the bowel, is the most frequent form of constipation, and is dependent on any cause which produces a lack of nerve vitality or a deficiency of muscular power. It is an insidious variety of slow development, but of sure progress; and gradually undermines the health, till the patient complains of never feeling well, but being unable to define what is amiss. Examination reveals a general flabbiness and want of tone of all the organs, which, without being diseased,

are not up to normal standard; but percussion of the abdomen, which yields a dull note, gives the clue to the condition of the health. The dulness is more or less general, and there is a lack of resiliency, so the recognition of the accumulation does not present any difficulty; for, although other ailments cause a dulness, they do not produce the same dead dulness which is so characteristic of constipation. The diagnosis is simple; but it is not so easy a task to determine the cause of the condition, which frequently can only be ascertained by a process of exclusion; but the delay in arriving at a definite conclusion is not of much consequence, since the first stage of treatment consists of clearing out the contents of the bowels, and subsequently of improving the peristaltic power.

The method of unloading the bowels requires careful consideration, for the stirring up of the accumulation frequently produces severe constitutional disturbance. The choice depends on the condition of health of the patient as regards the advisability of adopting quick or gradual measures. It is better, as a rule, if the strength of the patient permits of it, to get rid of the accumulation as quickly as possible, provided the patient is willing to be under observation; for until the bowels are thoroughly cleared out, further treatment is not

only waste of time, but is bound to end in disappointment. On the other hand, it would not be wise to subject a delicately constituted patient to the severe ordeal of vigorous treatment. A consideration of the actual condition will supply a sufficient explanation. A mass of accumulation exists in a more or less passive state, and in it are embedded myriads of poisonous germs, or at any rate poisonous products. The stirring up of the mass sets free the pent-up poison, which, unless expelled, enters the system, and produces serious results. It follows, therefore, that if once the process of stirring up is begun, it is necessary to hasten on the expulsion of all the effete material, together with the poisonous products. Conversely, if the patient's strength will not admit of the continuance of the treatment, it is unwise to stir up the accumulation by vigorous treatment.

It is always advisable, prior to speedy evacuation, to make sure by digital rectal examination of the free passage to the exit, for an obstruction which would not interfere with the ingress of the fluid might hamper the egress of the fæcal mass, and give rise to severe colicky pain, and perhaps set up a condition of inflammation. The rapid unloading of the bowels cannot be effected satisfactorily by giving aperient medicines by the mouth, because the peristaltic expelling power is

already enfeebled, so in the first instance lavage of the bowel is an imperative necessity. A copious enema is carefully given to wash out the contents from the lowermost part of the bowel so that the emptied space will afford room for the descent of more of the accumulation. A second enema should be given after an interval of four hours, and more enemata administered, until the abdominal resonance gives a fairly clear note. Then a couple of simple aperient pills—5 grains of colocynth and henbane—followed by a Seidlitz powder, or a claret wineglass of Apenta water, or a dose of any simple saline aperient medicine, will complete the unloading of the bowels. This procedure is the preliminary stage of treatment, and is sometimes accompanied with marked constitutional disturbance, which leads the patient to object to the repetition of the injections; but it is an imperative duty to persevere with them until all the effete material and the poisonous products are expelled from the system, for any suspension or alteration of treatment may give rise to a condition of blood-poisoning, with all the serious consequences.

The accumulation under ordinary conditions would collect again, but is prevented by giving a readily digestible and easily absorbable diet with very little refuse-forming food. Then it is desir-

able to ascertain the cause, so as to prevent a repetition of the accumulation. It may have begun as a result of a bad habit in not soliciting relief at a fixed time; or it may have been due to a dryness of the contents of the bowel owing to not drinking a sufficient quantity of fluid, or to too rapid absorption of the fluid in the motion; or it may have been part of a general sluggishness of the system, or of want of tone; or it may have been the result of a defective biliary secretion; or it may have been a sequel of the removal of the appendix; or it may have been caused by spastic contraction of a portion of the bowel; or it may have originated from difficulty of evacuation; or it may have been produced by inflammatory adhesions which, by traction, have reduced the calibre of the bowel; or it may have been induced by any condition which has lowered nerve vitality or interfered with the general health. The causes are numerous, and so the treatment must vary according to the circumstances. It is easy to establish a fixed and regular habit, or to supply the deficiency of moisture by drinking freely of water between meals, or to stimulate the sluggishness by small doses of nux vomica, or to correct the biliary defect by the administration of a 1-grain pill of ox-gall three times a day after meals, or to lubricate the bowel by giving a dessert-spoonful of

paroleine or chrismol morning and evening, or to release the spasm by minute doses of opium or belladonna, or to remove any obstruction to the free passage of the motions, or to improve nerve-tone by a teaspoonful dose of Fellows' syrup of hypophosphites in a claret wineglass of water three times a day, or to restore the health by suitable tonics and change of air. The one cause which does not readily yield to treatment is the defect resulting from inflammatory adhesions, and this condition can be mitigated only by mild laxative remedies, since any operation probably leads to the formation of more adhesions. The return to ordinary diet should be a gradual process; but it should not be delayed too long, or the digestive organs, from want of work, will become more atonic, and will not perform their natural functions. The amount of waste-forming food is gradually increased, but is not allowed to tarry too long on its course through the alimentary canal, but is assisted in its onward progress by a mild dinner pill. One of the following pills is of use:

| | | | | | |
|---|---|---|---|---|---|
| ℞ | Ext. aloes Soc. | ... | ... | ... | gr. ii. |
| | Pulv. ipecacuanhæ | ... | ... | ... | gr. ss. |
| | Pulv. zingiberis | ... | ... | ... | gr. ii. |

Fiat pilula. To be taken before dinner.

Or—

| | | |
|---|---|---|
| ℞ | Ext. cascara sagrada ... ... | gr. 2. |
| | Ext. nucis vomicæ ... ... ... | gr. $\frac{1}{8}$. |
| | Ext. belladonnæ ... ... ... | gr. $\frac{1}{16}$. |

Fiat pilula. One or two to be taken before dinner.

Or—

| | | |
|---|---|---|
| ℞ | Aloini ... ... ... ... ... | gr. $\frac{1}{8}$. |
| | Strychninæ ... ... ... ... | gr. $\frac{1}{60}$. |
| | Ext. belladonnæ ... ... ... | gr. $\frac{1}{8}$. |
| | Ext. cascara sagrada ... ... | gr. $\frac{1}{2}$. |

Fiat pilula. To be taken before dinner.

Cascara evacuant (P. D. & Co.), 15 to 30 drops in a wineglass of water, given morning and evening, will keep the bowels clear, and will stimulate also the function of the liver, and gently increase the peristaltic action of the intestines.

The selection of a dietary needs consideration, more to satisfy the wishes of the patient than on account of the benefit derived from the food, since the cure of the constipation chiefly depends on the repair of the digestive defects; but there is one advantage in dieting, and that is that it helps a patient to take an interest in the treatment of the case, and keeps the attention engrossed on the cure.

A mixed diet is indisputably the best form of food, provided there is not an excess of any one variety. Too much meat is just as harmful as

a solely vegetarian diet, though there are occasions when a temporary restriction to one class of foods—be it meat or vegetable—proves of great benefit. Meat in excess often produces constipation, due chiefly to the fact that large meat-eaters usually bolt their food; but meat in moderation, as a part of the dietary, aids nutrition, and lessens the amount of wear and tear which an exclusive one-variety diet otherwise would throw on the digestive organs. The same reasoning holds good as regards a strictly vegetarian diet—viz., that one class of food necessitates eating in excess in order to provide the 4,000 grains of carbon and the 300 grains of nitrogen, the amount at a rough calculation daily eliminated by a healthy individual, since to obtain 300 grains of nitrogen from a restricted diet necessitates taking considerably more than 4,000 grains of carbon.

A mixed dietary is the best to insure a regular action of the bowels, but if there is a tendency to constipation, certain foods exercise a beneficial influence. Fruit often is a sufficient addition to the dietary to secure a good result, and an orange, or an apple, or a pear, eaten early in the morning, or stewed fruits, especially prunes and plums, which first should be soaked in cold water until soft and swollen, eaten at meal-times, produce

the desired effect. Butter is a useful lubricant, and assists the onward progress of the food. Salads, with plenty of oil, also have a laxative tendency; and all foods rich in fats and oils are of use in the treatment of constipation. Honey, marmalade, treacle, and most varieties of jams, are useful adjuncts to the dietary for children.

White bread—the whiteness often is produced by the addition of alum to the flour—is of a constipating nature, but wholemeal bread, which contains particles of bran, assists the action of the bowels, and excites the peristaltic movements. Porridge has a similar effect, but occasionally disagrees, and produces a rash of the skin. Vegetables are a necessity for the maintenance of health, and help to prevent constipation. Popular prejudice condemns the potato, but the fault rests not with the vegetable, but with insufficient mastication; for the potato contains a great quantity of starch, which requires thorough mastication, or it gives rise to indigestion. Farinaceous foods have a binding effect. Eggs, besides creating flatulence, give rise to constipation. Milk invariably confines the bowels unless mixed with Vichy, Apollinaris, or some alkaline water. The individual patient usually knows the diet which best suits his requirements, and he can afford to disregard all rules of theory in favour of

the knowledge which he has acquired from previous experience.

The restoration of the peristaltic power is naturally a slow process, and cannot be effected in a less time than four months, even in the most favourable cases.

Massage is the best treatment, but it is a mistake to suppose that it is solely the performance of various manipulations, carried out for a fixed time of twenty minutes or half an hour. It is a powerful remedy, capable of doing both harm and good, and should be prescribed with full instructions as regards variety, force, and duration of time. General massage is not required, but spinal massage is almost as important as massage of the abdomen. The nature of the massage depends on the condition of the abdomen, the sensitiveness of the internal organs, and the strength of the patient, and is regulated by the effect produced rather than by any routine treatment. The test of the value of the massage is the result. If the manipulations have been either too severe or too prolonged, a feeling of languor, of aching fatigue, and even of pain, is experienced; but if they have been carefully carried out, there is an absence of any feeling of discomfort. They are not likely to produce any appreciable favourable result for at least three weeks, and often not

for six weeks, and then they show the beneficial result, first by an increase in the amount, and subsequently in the regularity of the evacuation.

Exercises strengthen the abdominal muscles, and, properly put into practice, give tone to, and increase, the peristaltic power of the bowels; but they must not be carried to excess. Horse-riding, skipping, fencing, and most kinds of outdoor athletic games, are useful exercises; but if they are not procurable, a mild course of gymnastics is a capital substitute. There are many varied exercises, to which fancy names are given, suitable for the correction of constipation. Jumping about the room by a series of short and quick jumps in a squatting posture, circling the body by pivoting on the waist or at the hips, raising the fully extended body into a sitting position without lifting the heels from the ground, and the goose-step or beating time, are all movements calculated to give strength to the abdominal muscles, and to assist the natural action of the bowels. Figure or breathing exercises also favour regularity, and are performed in three parts :

PART I.—Erect position; head and trunk fixed; abdomen drawn in by muscular contraction; mouth closed; lungs filled with air through the nose by a long and deep breath; hands raised from sides slowly in front to level of the shoulders

(the movement should be completed with the one breath); stand at ease.

PART II.—Erect position; head and trunk fixed; hands extended on level with shoulders; abdomen drawn in by contraction; lungs filled with air through the nose; hands and arms carried upwards till hands meet with arms fully extended above head (the movement to be completed in one breath); stand at ease.

PART III.—Erect position; head and trunk fixed; abdomen drawn in by contraction; lungs filled with air; hands and arms carried from above head downwards and backwards to sides (the movement to be completed in one breath); stand at ease.

The three parts are in reality one movement of the hands and arms divided into three parts, with an interval of rest between the divisions, and should be repeated three times morning and evening. The rate of movement depends on the length of time the breath can be held without producing any feeling of giddiness or throbbing in the head, and naturally is quick at first until with practice the movements are performed with slow precision.

## CHRONIC CONSTIPATION

Chronic constipation, in which the peristaltic power is practically lost, is an aggravated or progressive form of habitual constipation. The bowels are paralyzed and have become a mere waste pipe without any inherent power of propelling onwards the contents. The results are that the accumulation collects and increases, until the whole length of the intestinal canal is filled with waste material, and that any addition must necessarily create discomfort, unless a certain amount is expelled to make room for the fresh increase. The accumulation, owing to the impairment of nerve stimulation and the absence of any call of nature, stretches and distends the large bowel, further increasing the intestinal atony and augmenting the chronic condition of the complaint until practically it fills the abdomen with a collection amounting to many pounds of effete material. The individual, either from habit or from anxiety to have a motion, seeks relief, and by voluntary and forcible contraction of the abdominal muscles forces out a certain amount of the accumulation, and so obtains a daily evacuation, without any effective diminution of the constipation. Absorption takes place, the

blood becomes contaminated, all the organs of the body are ill-nourished, and a breakdown of health is an inevitable consequence. The symptoms are insidious and indefinite, and since the bowels act daily, the patient frequently is credited with being a sufferer from hysteria or neurasthenia, but an examination of the abdomen immediately reveals the true nature of the disease.

The loss of peristaltic power varies in degree from a temporary arrest to a paralytic condition, and is recognized partly by the amount of distension, but chiefly by the aid of auscultatory percussion. In the early stage of the complaint only a part of the intestines is deprived of peristaltic power, with the result that the accumulation collects in the part and forms first a sausage-shaped and then a balloon-like swelling, which may be mistaken for a solid growth. Later on other similar swellings are formed in other parts of the intestines, and the bowel between the lumps becomes greatly distended by flatulence, which tends to further increase the paralytic condition. The process is progressive until the whole length of the bowels is filled either with a mass or a collection of a number of balls of effete material. The difficulty of evacuation increases with the diminished power and strength of the individual, and with the dryness of the bowel contents. On

rectal examination a round ball, sometimes as large as a cricket-ball, and of considerable hardness, is felt, and the lump must be removed by the aid of either a scoop or the handle of a teaspoon or letter still by the finger. It is not always an easy task to break up and remove the mass, but if one hand be placed externally on the abdomen and made to exercise deep pressure downwards and backwards the lump becomes more or less fixed at the exit and is broken up and brought away in pieces. One lump after another is removed; but if the number of lumps be very great, it is wise to desist for a time to give the patient a rest, and then repeat the process. With the removal of all the lumps an enema of warm water, to which is added a small quantity of listerine, alkathymol, or some other disinfecting lotion, is given solely for the purpose of washing out the bowel. The patient is then in a fit condition to commence the routine treatment.

It is desirable for a time to limit the amount of waste material by giving a diet of digestible and absorbable food, and further to assist digestion by digestive remedies. The meals should be small, masticated with deliberation, and with a sufficient interval between them to allow of complete digestion. Fluids are readily absorbed, so malted milk, soups, nourishing broths, beef-

tea, and similar kinds of foods should form the chief part of the dietary. Digestive remedies are, from a scientific standpoint, of little value, but as a result of practical experience they have proved valuable adjuncts to treatment. One teaspoonful of pepsencia, or 10 grains of lactopeptine, or 1 teaspoonful of elixir lactated pepsin (P. D. & Co.), or 1 teaspoonful of Armour's acid glycerine of pepsin, in a wineglass of water after meals are remedies of established reputation. A useful prescription is—

| | | |
|---|---|---|
| ℞ | Pepsinæ puræ ... ... ... | gr. xxx. |
| | Acidi hydrochlorici dil. ... ... | dr. ii. |
| | Glycerini ... ... ... ... | oz. i. |
| | Tinct. gentianæ co. ... ... ... | ad oz. iii. |

Misce. One teaspoonful in a wineglass of water after meals.

Papain, either as glycerine or elixir of papain, in a teaspoonful dose after meals is a good substitute for pepsin as a digestive remedy.

The artificial assistance to digestion affords a partial rest to the stomach, and an almost complete rest to the intestines.

The amount of flatulence in this early stage of treatment often is considerable, and causes not only inconvenience, but a good deal of pain. A tablet of ichthyol—2½ grains—coated with keratin, taken after meals, eases the pain and disinfects

the bowel. A tabloid of beta-naphthol—3 grains—or better still the compound Beta-naphthol tabloid (B. W. & Co.), which contains also charcoal and peppermint, given with a little water after meals, is a useful antiseptic remedy against fermentation. Palatanoids of cloves—5 grains—are useful as a temporary measure of relief, but for prolonged use the following medicine is a preferable remedy:

| | | |
|---|---|---|
| ℞ | Sodii sulphocarbolatis ... ... | gr. x. |
| | Sodii bicarbonatis ... ... ... | gr. xv. |
| | Spiritûs ammoniæ aromatici ... | ♏ xx. |
| | Spiritûs armoraciæ co. ... ... | ♏ xxx. |
| | Infusum caryophilli ... ... ... | ad oz i. |

Misce. The dose to be taken after meals.

The medicinal assistance to digestion keeps the bowels practically at rest and favours the response to curative treatment. Abdominal exercises should be performed at least twice, and, better still, three or four times a day. The patient lying flat on the back, either on a hard mattress or on the floor, or standing erect at attention, draws in by voluntary contraction the muscles of the abdomen, and then slowly swells them up so as to distend as much as possible the abdomen. The exercise is repeated half a dozen times, but not oftener on one occasion, or it will tend to produce fatigue. The abdomen is then

rolled by a squeeze (the photographic apparatus made use of to flatten the photograph) for several minutes, and subsequently stimulated by the application of a local shower bath. There is an apparatus called K. C. B. which answers admirably for the purpose, but a watering-pot with a rose makes a good substitute. This treatment requires steady perseverance for several weeks. It is as well to inform the patient that owing to the small quantity of refuse-forming food which is being eaten, progress will be slow, and that a regular action of the bowels will not be a probable result for at least three months. The strength of the bowel under favourable circumstances will begin to improve, and the return of the peristaltic power will be capable of recognition by means of ausculatory percussion. As soon as there is distinct evidence of renewed contractile power, a course of vibrating massage is begun, and this is followed by electrical massage, taking care to avoid the use of too strong a current or too prolonged an application. The dietary is increased step by step, first by the addition of above-ground vegetables, then by farinaceous puddings, bread-and-butter, fish purée, minced meat, fruit, and so on, till the patient eats practically everything in season. An action of the bowel is solicited daily at a fixed

hour, paroleine or chrismol is given twice daily, and to encourage the action of the liver a Marienbad pulverette (Oppenheimer) is taken with meals three times a day. The pulverette contains:

| | |
|---|---|
| Extract of cascara ... ... ... | gr. $\frac{1}{6}$. |
| Extract of belladonna ... ... | gr. $\frac{1}{30}$. |
| Extract of aloes ... ... ... | gr. $\frac{1}{4}$. |
| Powdered rhubarb ... ... ... | gr. $\frac{1}{3}$. |
| Podophyllin ... ... ... ... | gr. $\frac{1}{12}$. |

If the motions are at all hard and dry, a tumbler of water, hot or cold according to preference, is taken morning and evening. The use of the pulverette should be discontinued after ten days, so as to prevent the system becoming habituated to the combination of drugs, and another form given as a substitute. One of the best is the vegetable laxative tabloid (B. W. & Co.), taken once, twice, or three times a day with meals; but any laxative remedy, provided the dose is small, has an equally good effect. A word of warning is advisable against the employment of any drastic aperient drug which, acting as a spur, tends to enfeeble the contractile power of the bowel. The patient has sooner or later to ascertain if the medicines can be omitted, and does so by diminishing the frequency of the medicine—*i.e.*, if taking medicine three times a day, tries the effect of twice a day or once a

day, or even omitting a day, and by degrees gives up taking medicine. The discontinuance of the medicinal treatment must be gradual, and should be checked on the slightest indication of inefficiency. It is not an unusual occurrence that a patient, finding the bowels acting with regularity, and regardless of the fact of the existence of an insufficiency, stops all treatment and allows a return to the original condition of constipation, and then treatment has to be started again from the beginning.

The last stage of treatment is the administration of tonic remedies. Fellows' compound syrup of the hypophosphites, in ½ to 1 teaspoonful doses taken in at least half a tumbler of water as a drink with midday and evening meals, is an excellent recuperative tonic remedy. Maltine with iron, quinine, and strychnine is another useful preparation. The compound syrup of glycerophosphates—syrup roborans (Robert's) is the best form—given, in a tea to a dessert spoonful, in half a wineglass of aromatic water twice daily, immediately after meals, has a good restorative effect. Glyphocal with formates (Squire), a compound elixir of the glycerophosphates with formates, given in a teaspoonful dose in a wineglass of sweetened water twice daily after meals, is a combined nerve and muscular tonic of undoubted

efficacy. Easton's syrup in ½-teaspoonful doses in water is also a good tonic remedy. The following medicine is of use:

| | | |
|---|---|---|
| ℞ | Acidi hydrochlorici dil. ... ... | dr. ii. |
| | Liquoris peptici ... ... ... | dr. vi. |
| | Liquoris strychniæ hydrochlor. ... | ♏ xxx. |
| | Aquam anethi ... ... ... | ad oz. vi. |

Misce. One measured tablespoonful in a wineglass of water three times a day after meals.

The severity and intractability of chronic constipation can be gauged by the fact that an operation is now advocated and performed for the removal of the portion of the bowel which, being loaded with waste material, is thought to harbour and form a good breeding-ground for the innumerable hostile germs; but the principle is based on unsound premises, and the practice is not attended with assured success. There are, however, certain cases in which the constipation depends on the existence of bands of adhesion, which not only constrict the calibre, but restrain the peristaltic movements of the bowel; and these cases can only be cured by the removal of the adhesions, or by the excision of that portion of the bowel; but even operation frequently fails to remedy the condition.

Chronic constipation, resulting from paralysis of peristaltic power, cannot be cured in a week

nor a month, but requires a course of treatment which must be carried out with patience and perseverance to insure a successful result. It is a disease which slowly and surely undermines the general health, makes the constitution susceptible to the attacks from other diseases, and indirectly shortens the span of life. Freedom from constipation is the secret of good health, long life, and happiness.

# LIVER DISORDER

## LIVER DISORDER

THE liver plays an important part in the process of digestion. It secretes bile for digestive and disinfecting purposes, it produces glycogen for the maintenance of force and heat, it assists in the purification of the blood, and acts as a filter to arrest the circulation of poisonous products. It follows, therefore, that any disturbance or interference with the natural functions necessarily creates a condition of ill-health.

The chief result of functional disorder is manifested in the secretion of the bile, which may be excessive or deficient in quantity as well as defective in quality. Either excess or deficiency lowers the standard of health, and induces a condition of mental apathy, malaise, irritability of temper, and general unfitness, whilst deterioration of quality causes a blood-poisoning with all the associated evils.

Excess occurs most frequently in those who lead sedentary lives or who eat to repletion, whereas deficiency is generally met with in those who indulge too liberally in alcoholic drinks.

The vitiation depends chiefly on the absorption of the deleterious or poisonous products from the stomach or intestines by the blood which is distributed to the liver.

## CONGESTION

Congestion is either acute or chronic, active or passive, and usually results from a chill, errors of diet, or want of exercise.

An increased flow of blood takes place in the liver at each time of feeding; but, being a natural process, does not constitute a condition of congestion. It is only when there is any hindrance to the free circulation of the blood that congestion is a correct diagnosis.

**Acute Congestion,** or hyperæmia of the liver, produces a feeling of fulness in the upper centre and right side of the abdomen, with a hardness to the touch over the lower part of the liver, just below the ribs. As a rule there is not any actual pain, but there is an uneasiness or even tenderness on pressure. The patient, whose sallow appearance characterizes the disease, complains of headache, nausea, mental depression, languor, and frequently an aching pain between or underneath the shoulder-blades, and suffers from irrita-

bility of the temper, irregular action of the bowels, bilious motions, a furred tongue, and a disagreeable taste in the mouth.

The congestion not only causes swelling of the liver, but spreads down the ducts, involving the common tube, which opens direct into the bowel and affects the duodenum. The swelling diminishes the calibre of the duct, and so causes obstruction to the free flow of the bile, which, being absorbed, gives rise to the sallow, bilious, or jaundiced appearance of the patient.

Treatment aims at the reduction of the congestion and the promotion of the flow of bile. It is obvious that unless the congestion be of a very mild character, it is useless to attempt to promote the flow of bile until the congestion of the duct has been relieved. Fomentations, poultices, sinapisms, antiphlogistine, dry-cupping, or the application of a few leeches, tend to relieve the congestion, whilst the following draught, taken in the early morning, will help to encourage the flow of bile:

| | | |
|---|---|---|
| ℞ | Sodii bicarbonatis ... ... ... | gr. xx. |
| | Sodii sulphatis ... ... ... | dr. ii. |
| | Tincturæ zingiberis ... ... ... | ♏ x. |
| | Infusum gentianæ co. ... ... | ad oz. i. |

Misce. To be taken in half a tumbler of hot water in the early morning.

Stronger remedies are necessary should the congestion have extended to the bowel, and should a condition of constipation co-exist with the congestion. The old-fashioned remedy of a blue pill followed by a black draught cannot readily be surpassed; but as a prejudice frequently exists against taking mercury in any form, podophyllin, euonymin, and iridin are useful substitutes. The ¼-grain pill, as it is often called, is a combination of the three drugs, and is a good remedy:

Podophyllin
Iridin } āā gr. ¼.
Euonymin
Ext. taraxaci, q.s. ut fiat pilula.

To be taken at bedtime.

A Seidlitz powder in the early morning completes the work of the pill.

As soon as the congestion of the lining of the duct has been sufficiently reduced to allow of a free passage, remedies should be given to promote the flow of the bile.

The "S" prescription is a useful combination of drugs for this purpose:

| | | |
|---|---|---|
| ℞ | Sodæ salicylatis ... ... ... | gr. v. |
| | Sodæ bicarbonatis ... ... ... | gr. xv. |
| | Succi taraxaci ... ... ... | dr. ss. |
| | Spiritûs chloroformi ... ... ... | ♏ x. |
| | Syrupi zingiberis ... ... ... | ♏ xx. |
| | Aquam menthæ piperitæ ... ... | ad oz. i. |

Misce. The dose to be taken every four hours.

The addition of 20 grains of sulphate of soda to each dose is advisable should there be any tendency to constipation.

Later on the activity of the liver should be encouraged by giving a mixture of podophyllin and taracum or some similar liver medicine. The combination of the compound decoction of aloes increases the efficacy of these drugs, but also adds to the unpleasantness of the taste.

The treatment should not be discontinued abruptly, and a liver tonic should be given for a week or ten days. The following mixture is a useful preparation :

| | | |
|---|---|---|
| ℞ | Acidi nitromuriatici dil. ... ... | ♏ x. |
| | Extracti taraxaci liquidi ... ... | ♏ xx. |
| | Spiritûs chloroformi ... ... ... | ♏ x. |
| | Infusum gentianæ ... ... ... | ad oz. i. |

Misce. The dose to be taken three times a day after meals.

Should there be any subsequent indigestion, an alkaline tonic usually gives a better result :

| | | |
|---|---|---|
| ℞ | Sodæ bicarbonatis ... ... ... | gr. xx. |
| | Succi taraxaci ... ... ... | dr. ss. |
| | Tincturæ gentianæ co. ... ... | ♏ xx. |
| | Tincturæ nucis vomicæ ... ... | ♏ v. |
| | Aquam caryophilli ... ... ... | ad oz. i. |

Misce. The dose to be taken three times a day before meals.

Other combinations will readily suggest themselves to the intelligent practitioner.

The dietary should be simple, and the V. E. M. diet (vegetables, eggs, and milk) should be rigidly adhered to for the first few days of the illness. Butcher's meat should be avoided, alcoholic drinks should be prohibited, and all rich, fatty, and oleaginous food should be disallowed until the subsidence of the attack.

A change to the seaside often is suggested, but is not likely to be of much benefit, as sea air primarily tends to upset the working of the liver.

An acute bilious attack is dependent on so many varied causes that it is unwise to give a hasty diagnosis of the cause, especially as a little patience soon removes any doubt about the nature of the illness. Inactivity of treatment is the best procedure, since, if the disturbance be solely a disorder of digestion, the attack speedily subsides without taking any medicine. It is as well, however, to give sips of hot water, and to apply a mustard-leaf over the region of the stomach.

**Chronic Congestion,** as a disease, usually is due to a repetition of attacks of acute congestion, but also is due to the frequent nipping of alcoholic stimulants between meals. Over-indulgence in food, whether it be in drinking or eating, imposes too great a tax on the function of

the liver, and in course of time produces a sluggishness or torpidity. The symptoms are varied and numerous, but the most constant are—A sense of oppression and heaviness about the region of the liver, a disagreeable taste in the mouth, a furred tongue, headache, pain between the shoulders, indistinct vision, dyspepsia, flatulence, constipation, a sallow complexion, lack of energy, debility, and loss of flesh. The patient frequently suffers from piles. The symptoms are a gradual development, and therefore cannot be removed by any active or drastic remedies. Any attempt made to spur the liver to activity merely increases the previous condition, and still further augments the torpidity. It may be laid down as a fundamental principle of treatment that the restoration of the hepatic function can only be effected by coaxing, and not by coercive measures. Restriction of the amount of food, in spite of the patient's emaciation, is a necessity, so as to limit the work of the liver. A call should be made on the skin, the kidneys, and the bowels, to do a little additional work, so as to relieve the liver. A warm bath, and, if the patient's strength permit of it, a Turkish bath, will increase the action of the skin, whilst sweet spirits of nitre will promote the flow from the kidneys. An aperient pill or draught—aloes is a suitable drug—

will stimulate the action of the bowels. The liver must be coaxed to resume functional activity, but there must not be any attempt made to force progress. Bearing in mind the facts that the bile is thick and viscid, and that the power of expulsion from the liver is enfeebled, it is evident that the early treatment must be devoted to thinning of the bile and increasing the power of expulsion from the liver. Soda acts as a solvent of the bile, so that whatever remedy is prescribed should include this drug. The two preparations most frequently employed are the bicarbonate of soda in 20-grain doses and the salicylate of soda in 5 to 10-grain doses. The two drugs may be given in combination. Taraxacum increases the efficacy of the soda, and so the combination of soda and taraxacum will bring about a good result. A few deep-breathing exercises, acting as natural massage, will compress and relax the liver alternately, and will aid the expulsion of the bile. A mild liver pill will further assist the flow of the bile, and the following, though not quite a scientific combination, is of use:

| | | |
|---|---|---|
| ℞ | Hydrargyri cum cretâ ... ... | gr. $\frac{1}{8}$. |
| | Podophylli ... ... ... ... | gr. $\frac{1}{4}$. |
| | Pulveris ipecacuanhæ ... ... | gr. $\frac{1}{4}$. |
| | Ext. belladonnæ ... ... ... | gr. $\frac{1}{8}$. |

Fiat pilula. To be taken at bedtime.

The pill and the mixture of soda and taraxacum should be taken for twelve consecutive days, and then it is desirable to make a change of treatment and to substitute an acid for the alkali and to give a different variety of pill. The following is a useful liver acid tonic:

| | | |
|---|---|---|
| ℞ | Acidi nitromuriatici dil. ... ... | ♏ x. |
| | Extracti taraxaci liquidi ... ... | dr. i. |
| | Infusum calumbæ ... ... ... | ad oz. i. |

Misce. The dose three times a day after meals.

The taste of the taraxacum sometimes is so unpalatable to a patient that it is necessary to omit it. The following combination then is of use:

| | | |
|---|---|---|
| ℞ | Acidi nitromuriatici dil. ... ... | ♏ x. |
| | Glycerini ... ... ... ... | ♏ xx. |
| | Infusum chiratæ ... ... ... | ad oz. i. |

Misce. The dose three times a day before meals.

A more mild variety of liver acid tonic is:

| | | |
|---|---|---|
| ℞ | Acidi nitromuriatici dil. ... ... | ♏ vii. |
| | Tincturæ aurantii ... ... ... | ♏ xx. |
| | Spiritûs chloroformi ... ... ... | ♏ x. |
| | Aquam destillatam ... ... ... | ad oz. i. |

Misce. The dose three times a day before meals.

An aloes pill is a good variation:

| | | |
|---|---|---|
| ℞ | Extracti aloes Socotrinæ ... ... | gr. ii. |
| | Pulveris ipecacuanhæ ... ... | gr. ss. |
| | Pulveris zingiberis ... ... ... | gr. ii. |

Misce et fiat pilula. Coat. To be taken before dinner.

Another useful antibilious pill is composed of—

| | | |
|---|---|---|
| ℞ | Extracti colocynthidis co. ... ... | gr. 1½. |
| | Extracti hyoscyami ... ... ... | gr. 1. |
| | Extracti aloes Socotrinæ ... ... | gr. 1. |
| | Podophylli ... ... ... ... | gr. ¼. |
| | Extracti nucis vomicæ ... ... | gr. ¼. |
| | Ipecacuanhæ ... ... ... ... | gr. ¼. |

Misce et fiat pilula. Coat. One or two at bedtime.

The progress of treatment necessarily is slow, since the complaint is of an insidious nature, and therefore requires a frequent change of remedies. First the soda and taraxacum mixture, then a change to an acid tonic, then a reversion to the original remedy, and so on, until the result is a cure. A mixture containing chloride of ammonium is a useful variation, but the taste usually is so unpalatable, in spite of the addition of liquid extract of liquorice, that few patients can be persuaded to take it for longer than two or three days. Messrs. Kirby of Newman Street, W., prepare an elixir which is quite free from the above objection, and permits of the addition of taraxacum and other suitable remedies.

Dieting is not of much importance provided the food is bland and unirritating, since the absence of appetite restricts the amount of food; but it is as well to limit, even if not to exclude, butcher's

meat, twice cooked food, and all rich dishes. Stimulants should be prohibited, but plenty of fluid drinks should be taken during the twenty-four hours.

Massage and exercises may be employed with a view of increasing the functions of the liver and aiding in the expulsion of pent-up bile; but these adjuncts of treatment require to be regulated by the effect produced on the individual, and not to be given in a haphazard fashion as a matter of routine.

The torpidity of the liver sometimes is so persistent that the simple remedies fail to produce a satisfactory result. The liver is "on strike," and the question naturally arises whether to persevere with coaxing or to adopt coercive measures. There is but one answer, and that is that persuasion should be given the priority, and that force should be reserved only for cases of exceptional intractability. Horse-riding, rowing, playing tennis, etc., encourage the activity of the liver, but if these remedies take up more time than conveniently can be spared, vibratory massage, regulated according to requirements, will produce a similar result. Amongst medicinal remedies chologestin — a proprietary preparation containing 2 grains of glycocholic acid, 2½ grains of salicylate of soda, 5 grains of pancreatin, and

5 grains of bicarbonate of soda in one tablespoonful—is a reliable remedy, which should be given well diluted with water three times a day after meals. A somewhat similar preparation is the pilula cholelithica (P. D. & Co.), which is composed of 1½ grains of acid oleate of soda, 1½ grains of natural salicylate of soda, ⅓ grain of phenolphthalein, and $\frac{1}{10}$ grain of menthol, two to be taken, and followed by a drink of half a tumbler of hot water night and morning. These remedies, as soon as they produce a marked effect, gradually should be withdrawn, and be followed by a course of chionia, a preparation which stimulates the function of the liver without producing any excessive bowel activity.

This treatment, perseveringly adopted, invariably meets with success, but occasionally there is an exception, and then more vigorous measures are a necessity. Vibratory massage should be increased in force and administered for a longer time, so as thoroughly to arouse the activity of the liver, which should be encouraged and maintained by an aperient liver tonic:

| | | |
|---|---|---|
| ℞ | Acidi nitromuriatici dil. ... ... | ♏ x. |
| | Liquoris strychniæ ... ... ... | ♏ iii. |
| | Sodii sulphatis ... ... ... | dr. ss. |
| | Aquam chloroformi ... ... ... | ad oz. i. |

Misce. The dose three times a day after meals.

The medicine contains strychnine, and therefore should be omitted and changed at the end of ten days, but may be resumed after an interval of a week. The following medicine is a useful change of remedy:

| | | |
|---|---|---|
| ℞ | Podophylli ... ... ... ... | gr. vi. |
| | Spiritûs ammoniæ aromatici ... | dr. vi. |

Dissolve and add—

| | |
|---|---|
| Succi taraxaci ... ... ... | oz. i.ss. |
| Tincturæ zingiberis ... ... ... | dr. ii. |
| Decoctum aloes co. ... ... ... | ad oz. vi. |

Misce. One measured dessert-spoonful in a wineglass of water three times a day after meals.

The Marienbader silver-coated tablet is a good substitute if the taste of the previous medicine be objectionable to the patient.

The prolonged hyperæmia and the continuous torpidity have given rise to dyspeptic trouble, which, even after the function of the liver has been restored to a healthy condition, is likely to impair the health for several months. The following remedy is of use:

| | | |
|---|---|---|
| ℞ | Acidi nitromuriatici dil. ... ... | ♏ x. |
| | Glycerini acidi pepsinæ ... ... | dr. i. |
| | Tincturæ nucis vomicæ ... ... | ♏ v. |
| | Infusum gentianæ co. ... ... | ad oz. i. |

Misce. The dose three times a day after meals.

Later on tonics are necessary to improve the general tone, but they must be prescribed with discretion, or they will renew or increase the indigestion. Tincture of chirata and tincture of orange, 20 drops of each, in a wineglass of water or sherry, before luncheon and dinner, is a good appetizing bitter, whilst a pill of 1 grain of quinine, 1 grain of sulphate of iron, and, if there be constipation, 1 grain of extract of Socotrine aloes, taken after meals, improves the condition of the blood. Should iron disagree, as it does with some patients, 1 grain of valerianate of zinc may be substituted for that ingredient.

**Vitiation of the bile** is a disorder of common occurrence, and is usually the result of absorption of deleterious substances which have been brought in the circulation to the liver. The most frequent cause is an unhealthy accumulation in the intestines, but the unhealthy accumulation most frequently is dependent on the vitiation of the bile, so that both conditions are dependent on one another for their causation. A "vicious circle" is established, and there is a simultaneous progressive increase of accumulation and of vitiated bile. The question of priority of causation may be an interesting scientific problem, but is not of any practical importance, since both conditions coexisting and acting as cause and effect, the cure

of either condition must necessitate the removal of both conditions. The effect of the vitiation shows itself in the individual by the existence of a sallow complexion, a more or less wrinkled or parchment-like face, a peculiar offensive breath, an emaciated figure, varied dyspeptic symptoms as acidity, capricious appetite, irregularity of the bowels, colicky pains, flatulence, more or less constant headache, yellow vision, insomnia, peevishness, and a disinclination for any bodily or mental exertion. The removal of the accumulation of effete material has precedence, because it is the more easily effected.

The process of dislodging and stirring up the waste products sets free and circulates poisons, often giving rise to considerable constitutional disturbance. Once the treatment has been started, there must not be any hesitation in continuing with it until there is a complete clearance of the intestinal contents, always bearing in mind that the more serious the constitutional disturbance the greater is the necessity for speedily and completely freeing the system of the poison. A preliminary dose — 1 tablespoonful — of castor oil helps to soften the mass, serves to lubricate the bowels, and assists in the expulsion of the effete material. An enema of warm water, rendered disinfectant by the addition of 1 tablespoonful

of listerine or alkathymol to the quart of water, is given to wash out the lowermost portion of the bowel, and to permit of the descent of the accumulation from the higher portions of the intestines. The enema should be repeated at intervals of two to three hours until the water returns practically as it was injected. It may be necessary to give as many as eight or ten enemata before the bowels are cleared of the accumulated refuse. It also is desirable to give a mild aperient medicine—cascara evacuant (P. D. & Co.) 20 to 30 drops, or compound liquorice powder, 1 teaspoonful in a wineglass of water, every four hours. The removal of the effete material from the bowels more or less severely taxes the strength of the patient, who should be given small and repeated doses of alcohol in the form of whisky, brandy, or sal volatile, to guard against the possibility of a collapse. The abdomen often is tender and painful after the evacuation of the intestinal contents, but the condition speedily is relieved by giving small doses of opium and bismuth, and, if necessary, applying a linseed-meal poultice sprinkled with laudanum, or hot poppy-head fomentations. A useful remedy is 1 teaspoonful of bisedia in 1 tablespoonful of cinnamon or peppermint water, given every four hours, or the following mixture makes a good medicine:

| | | |
|---|---|---|
| ℞ | Bismuthi salicylatis ... ... ... | gr. v. |
| | Mucilaginis ... ... ... ... | q.s. |
| | Aquæ floris aurantii ... ... ... | dr. iv. |
| | Tincturæ nucis vomicæ ... ... | ♏ iii. |
| | Liquoris opii sedativi ... ... | ♏ ii. |
| | Aquam ... ... ... ... ... | ad oz. i. |

Misce. The dose every four hours till pain and tenderness are relieved.

Attention then is directed to the thinning of the bile and the establishment of a healthy flow. The liver, being more or less choked with thickened and vitiated bile, is firm and hard to the touch, instead of being soft and spongy, as it is in a natural condition, and therefore does not respond to the stimulus of digestion, nor yield to the pressure induced by abdominal exercises. It is practically impossible to thin the already thickened bile, and so the expulsion first must be effected by compulsion. The application of the vibrator over the whole region of the liver often suffices to cause the expulsion of plugs of thickened bile. Three to five grains of calomel, or, if there be any objection to mercury, two vegetable laxative tabloids (B. W. & Co.) given at bedtime, and followed by a Seidlitz powder or a dose of one of the aperient mineral waters early on the following morning, will assist in the unloading of the liver. The sudden rush of bile into the bowel, which from the evacuation treatment is in a more

or less irritable condition, frequently produces a bilious attack, with colicky pains in the abdomen. Sipping of hot water usually checks the sickness and relieves the pain; but in severe cases the addition of a teaspoonful of bicarbonate of soda to the tumber of hot water increases the efficacy of the treatment. The thinning of the bile is best effected by the administration of one or other of the preparations of soda, especially in conjunction with taraxacum. Salicylate of soda, in 5-grain doses, usually gives a good result. The following prescription is of general use:

| | | |
|---|---|---|
| ℞ | Sodæ salicylatis ... ... ... | gr. v. |
| | Sodæ bicarbonatis ... ... ... | gr. xv. |
| | Succi taraxaci ... ... ... | dr. i. |
| | Tinct. gentianæ co. ... ... ... | ♏ xx. |
| | Infusum caryophylli ... ... ... | ad oz. i. |

Misce. The dose to be taken three times a day one hour after meals.

Should there be much debility, 5 drops of tincture of nux vomica may be added to each dose with advantage.

The vitiation of the bile probably has led to functional inactivity of the liver, so that there is a deficiency of bile, which requires to be supplemented by the administration of ox-gall. A 2-grain keratin-coated pill, taken after meals, suffices to stimulate the intestinal digestion, and

indirectly promotes an increased flow of bile. Ovoids of choleokinase, which contain $3\frac{1}{2}$ grains of ox-gall, with $\frac{1}{10}$ grain of both kinase and secretin, are a stronger remedy, and may be given—one or two—after luncheon, dinner, and at bedtime.

The defect of the bile—on the principle that every digestive defect affects all subsequent processes of digestion—impairs the activity of the pancreatic and intestinal secretions. The prescribing, therefore, of pancreatin—the secretion from the sweetbread—and of extracts from the intestinal glands, with the ox-gall, is a rational treatment. For obvious reasons it is of importance to make sure of the purity of these preparations, so the remedies should be procured from a chemist of an established and trustworthy reputation. Fairchild's pepule of compound ox-gall (B. W. & Co.) contains 2 grains of ox-gall, 2 grains o zymine (pancreatin), with $\frac{1}{8}$ grain of nux vomica, and may be given three times a day after meals. If the ox-gall be excessive, Fairchild's pepule pancro-hepatic (B. W. & Co.), containing 1 grain of ox-gall and 3 grains of zymine, is a useful substitute. The intestinal extracts require even greater care in the selection of the supply. Jubol tablets, containing agar-agar and biliary and intestinal extracts, are a reliable remedy for supplementing the deficiencies, for

renewing functional activity, and for acting as a mild laxative remedy, and are given—one, or if necessary for the relief of the bowels two—at bedtime.

This treatment usually suffices to thin and re-establish the natural flow of bile, but the disease having been a gradual and progressive development, progress necessarily must be slow, and any marked improvement is unlikely to take place for several months. The possibility of a relapse is guarded against by taking chionia—an American preparation — 1 teaspoonful in a wineglass of water, preferably between meals, three times a day for an additional three months.

Some of the remedies advocated in the treatment of this disorder are of foreign manufacture, but they are preparations of recognized drugs, and are not in any sense secret remedies. A medical man, unacquainted with the composition of them, only has to make inquiries to ascertain the nature and dosage of the ingredients.

As regards the diet, a special dietary, except for the prohibition of all alcoholic drinks, is unnecessary so long as the food is light, wholesome, and unlikely severely to tax the powers of digestion.

A course of massage and exercises, though not a necessity, aids and hastens the recovery of the

patient. Occasionally, but rarely, the constitution of the individual is so enfeebled that it is unwise to stir up the poison in the system, or to subject the patient to the severe ordeal of completely evacuating the intestinal contents. The adoption of milder measures, then, is a necessity, and the thinning of the bile takes precedence of the removal of the accumulation. The soda and taraxacum mixture is given for a period of from three to six weeks, and one jubol tablet or a 2-grain cascara tablet is taken every night at bedtime. The gradual removal of the effete material from the bowel leads to the generation of considerable flatulence, which, however, does not freely escape, but is pent up in different portions of the bowels, and gives rise to colicky pains. The absorption of the poison begins, but, except for a feeling of malaise, does not produce any marked symptoms, because the disturbance is slight, and the stirring-up of the poison is limited to a small amount. Antiseptic or disinfecting remedies are required, and a 3-grain tablet of beta-naphthol (B. W. & Co.), or, better still, a tablet of regyl, which contains peroxide of magnesium and fluoride of soda, given one hour after meals, will assist in counteracting the fermentative putrefaction. The poisonous products are removed very slowly, and, consequently, the

patient is subject to frequent and often varying disturbances of health, giving rise to the supposition, for which there is not any truth, that the ailments are the result of imagination. Many young girls are said to suffer from hysteria, and since the womanly functions generally are out of order, are curetted, probably becoming chronic invalids because the poison in the system produces nervous symptoms. It is desirable, then, to tone up the general health, but possibly, owing to the existence of the poison, tonic remedies seldom agree with the patient. The following prescription is a mild tonic of iron:

| | | |
|---|---|---|
| ℞ | Ferri et ammon. citratis ... ... | gr. v. |
| | Spiritûs ammoniæ aromatici ... | ♏ xv. |
| | Glycerini ... ... ... ... | ♏ xx. |
| | Infusum calumbæ ... ... ... | ad oz. i. |

Misce. The dose to be taken three times a day after meals.

The addition of 7½ grains of bromide of ammonium to each dose is an advantage if there are any signs of nervous or functional disorder. Another tonic for general use is—

| | | |
|---|---|---|
| ℞ | Tincturæ nucis vomicæ ... ... | ♏ iii. |
| | Spiritûs chloroformi ... ... ... | ♏ vii. |
| | Glycerini ... ... ... ... | ♏ xx. |
| | Infusum gentianæ co. ... ... | ad oz. i. |

Misce. The dose to be taken three times a day before meals.

A modified course under strict supervision of exercises and massage will help to improve the general health. As soon as the patient has gained sufficient strength the evacuation and bile-thinning treatments are restarted and continued until the effect again leads to debility. The balance of improvement over relapse naturally is not very large, so that it is only by continuous perseverance, not for months, but for a couple of years, that there can be any hope of an ultimate recovery. Treatment by a vaccine only is mentioned to be condemned, but the warning is necessary, since vaccine treatment has become so universal that it is advocated as a cure for almost any and every disease.

## ANÆMIA OF THE LIVER

Anæmia of the liver is a disorder seldom diagnosed, but of frequent occurrence. It is the opposite condition of congestion, and therefore the importance of recognition cannot be overestimated, since the treatment necessarily is at variance with that for congestion. It must be an unsound method to attempt to deplete a liver which already lacks a sufficiency of blood, and it must be an equally unsound plan to endeavour to force into activity an organ which is deficient of

tone and strength. The disease frequently is part of a general atony of the system, but it is also an independent disorder which is a cause of general anæmia. It is therefore essential to distinguish between the anæmia dependent on impoverishment of the blood and true anæmia of the liver, or, in other words, to decide whether the liver anæmia is merely a symptom or is a disease.

The diagnosis is not so simple as might be supposed, since anæmia of the liver leads to anæmia of the system, and anæmia of the system gives rise to anæmia of the liver. There is one sure and practical proof which, however, requires time for development, and that is that anæmia of the liver will not benefit by the treatment with iron, arsenic, etc., usually prescribed with success for general anæmia.

The anæmic liver fails in functional activity and produces a condition of mental and bodily apathy of a most distressing character, frequently giving rise to a melancholia, which is very intractable to treatment. It causes numerous and varied dyspeptic symptoms, chiefly headache, giddiness, coldness of the extremities, irregularity of bowels, peevishness, and disturbed sleep. Occasionally it produces a short, hacking cough, but with very little expectoration. It impairs the functions of nutrition, and produces a wrinkled skin, a sallow

complexion, and marked emaciation. There is often a peculiar smell which, if present, is characteristic of the disease.

The anæmia creates, or has created, a sluggishness of the liver, so that treatment must be based on the coaxing and not coercing principle. Salts of soda thin the bile and assist in the healthy restoration of the functions of the liver. Taraxacum is a useful bitter laxative remedy, which is known by practical experience to be of great value in diseases of the liver. The combination of soda and taraxacum is a good mixture with which to begin treatment. The following prescription is of use:

| | | |
|---|---|---|
| ℞ | Sodæ bicarbonatis ... ... ... | gr. xx. |
| | Succi taraxaci ... ... ... | dr. i. |
| | Tincturæ chiratæ ... ... ... | ♏ xxx. |
| | Aquam caryophylli ... ... ... | ad oz. i. |

Misce. The dose to be taken three times a day one hour after meals.

Any existing constipation is relieved by taking a simple antibilious pill at bedtime. A vegetable laxative tablet (B. W. & Co.) or a Marienbad tablet usually gives a satisfactory result. Calomel, blue pill, and similar strong remedies are to be avoided, as they are sure to do harm.

Aloes is an old-fashioned remedy which indisputably stimulates the flow of bile, but is apt to

cause griping pain, and so should be combined with extract of belladonna or henbane. The following is a useful pill:

| | | | |
|---|---|---|---|
| ℞ | Extracti aloes Socotrinæ | ... ... | gr. I. |
| | Extracti belladonnæ ... | ... ... | gr. $\frac{1}{8}$. |
| | (Vel extracti hyoscyami) | ... ... | gr. I. |
| | Pulveris ipecacuanhæ | ... ... | gr. $\frac{1}{2}$. |
| | Extracti taraxaci ... | ... ... | gr. I. |

Fiat pilula. Coat. One or two at bedtime.

Aloin, the active principle of aloes, frequently is prescribed, but is not a suitable preparation for this disorder of the liver. The habitual use of aloes is said to cause piles, but it only does so when either the dose given is too strong or the drug is ordered in an unsuitable case. Aloes is a slowly acting drug, and should be used more for the relief of chronic constipation than with a view of obtaining a speedy result.

The soda mixture temporarily should be discontinued at the end of three or perhaps six weeks. One teaspoonful of chionia in a wineglass of water taken three times a day between meals gently encourages the action of the liver and maintains the good effect produced by the soda mixture. It is a harmless preparation, and can be taken for many months without any fear that it will do harm.

The inactivity of the liver is compensated for

by the administration of a little ox-gall. The following is a good pill:

| | | |
|---|---|---|
| ℞ | Fel bovini ... ... ... ... | gr. i. |
| | Pancreatini ... ... ... ... | gr. i. |
| | Extracti colocynthidis co. ... ... | gr. ss. |
| | Quininæ sulphatis ... ... ... | gr. ss. |
| | Extracti taraxaci ... ... ... | gr. i. |

Fiat pilula. Coat. One to be taken three times a day after meals.

Horse-riding is a beneficial exercise, but if it is not possible then gentle vibratory massage is a good substitute. Deep breathing is of great importance, as the blood being impoverished, an extra supply of oxygen is required to purify the blood, to feed the tissues, and to give tone to the constitution. Dieting requires restriction only as regards the quantity and any strict regimen should be avoided as likely to impair the functional activity of the digestive organs, including the liver.

Improvement naturally is a slow progress, and since alkaline remedies as soda, etc., if taken continuously for too long a time, impair the digestion, a change to acid medicine is a necessity. Dilute nitromuriatic acid in 10-drop doses in combination with taraxacum forms a useful liver tonic, and should be given in a wineglass of water three times a day after meals. The chionia should not

be omitted, and may be taken with the acid tonic medicine.

The ordinary tonic drugs usually prescribed for anæmia should not be given, as they are useless, if not harmful; but quinine in small doses, as a bitter in the later stages, gives a fillip to digestion and assists in the restoration of the health.

The cure of anæmia of the liver usually takes from eighteen months to two years of continuous treatment, and during this period there will be many ups and downs of progress and relapse, but usually each successive improvement is greater, and each successive relapse is less than the previous condition, until the relapses cease and the improvement becomes a permanent result.

## JAUNDICE

Jaundice is a symptom more than a disease, and is dependent on many causes; but the simple jaundice associated with functional disturbance of the liver is due invariably to a blocking of the duct from congestion, or to a narrowing of the duct from spasm, so that the bile, being unable to flow into the bowel, remains in the liver, becomes absorbed, and gives rise to the sallow or yellow discoloration of the skin and the whites of the eyes. It is caused also

by a thickening of the bile, which becomes tenacious, and consequently does not flow readily through the bile-duct.

The congestion causing an obstruction to the flow of bile may result from "a chill on the liver," or may be a result of an extension of congestion from the stomach into the bowel and up the duct, or may proceed from congestion of the liver spreading downwards and involving the duct. The spasm, due to irritation, is produced by the retention of the thickened tenacious bile, or by the presence of a small gall-stone in the duct. Functional jaundice has a natural tendency to disappear, or at any rate is amenable to simple treatment; so that if the jaundice be persistent the probability is that the trouble is not functional but is dependent on organic mischief. The treatment of simple jaundice consists primarily of dry cupping over the liver and region of the gall-bladder, the application of hot fomentations, the administration of a saline purgative medicine, and copious draughts of water. Five grains of salicylate of soda added to each dose of the saline remedy increases the effect, but should not be continued for too long a time, as it is likely to upset the digestion. It is inadvisable to give strong remedies, as calomel or blue pill, with a view of forcing the action of the liver, until the

congestion of the duct has been relieved and the consistency of the bile has been restored to its natural condition, since forcing measures only serve to increase the congestion or aggravate the spasm. The one exception is in a case in which the irritation is produced by the existence of a small gall-stone in the duct, and then force may cause the expulsion of the stone.

The absence or diminution of bile in the bowel leads to flatulence and fermentative decomposition, which should be corrected by the administration of ox-gall—a 4-grain tabloid—or by a compound beta-naphthol tabloid, or by a 2½-grain ichthyol tablet, given immediately after meals three times a day.

The intense itching of the skin is best relieved by a weak solution (ʒi. of carbolic acid to water ℥viii.) as a local application, but naturally does not permanently disappear until after the removal of the jaundice.

The dietary should be restricted in the early stage chiefly to milk and farinaceous foods, later on eggs and vegetables, then fish and white meat may be given, and finally a gradual return to ordinary diet.

After the disappearance of the jaundice, the activity of the liver should be encouraged by small doses of podophyllin, iridin, euonymin, or

aloes. The following mixture is a useful preparation:

| | | |
|---|---|---|
| ℞ | Podophylli ... ... ... ... | gr. ii. |
| | Spiritûs vini rect. ... ... ... | oz. ii. |
| | Essentiæ limonis ... ... ... | ♏ x. |
| | Extracti aloes Socotrinæ ... ... | gr. xii. |
| | Tincturæ chloroformi co. ... ... | dr. i. |

Misce. One measured teaspoonful in a wineglass of water after breakfast and dinner.

A Marienbad pulverette given three times a day after meals is a convenient method of giving small doses of podophyllin and aloes, but is not so effective as the liquid preparation.

An acid tonic completes the treatment.

| | | |
|---|---|---|
| ℞ | Acidi nitromuriatici dil. ... ... | ♏ x. |
| | Tincturæ nucis vomicæ ... ... | ♏ v. |
| | Pepsinæ glycerini acidi ... ... | ♏ xxx. |
| | Infusum gentianæ ... ... ... | ad oz. i. |

Misce. The dose to be taken three times a day after meals.

Vomiting sometimes is a troublesome symptom, and is best relieved by an effervescing saline mixture.

## GALL-STONES

Gall-stones are concretions of thickened bile, and are composed chiefly of hardened cholesterine. They vary in size from that of a pea to that of a

chestnut, or even of a hen's egg, and generally being multiple are flattened or faceted on the sides by friction one against another. They are of frequent occurrence, especially amongst women over forty years of age, and more often than otherwise lie quiescent and do not produce any disturbance of health. They, however, do give rise sometimes to severe abdominal pain, and may account for the existence of intractable indigestion.

A gall-stone, if small in size, may pass from the gall-bladder into the bowel, but if of larger size may become fixed in the cystic, or the common bile-duct, and give rise to jaundice. The passage of a gall-stone of medium size causes acute pain, which comes on in fits and starts, and invariably causes severe vomiting and leads to great prostration. The gall-stone under favourable conditions may be forced either gradually or suddenly into the bowel, and pass away with the refuse material; or it may fall backwards into the gall-bladder, where it may remain quiescent for an indefinite period; or, again, may set up all the symptoms caused by the attempted expulsion of the stone. It may cause ulceration if too large to pass through the duct, and so find its way into the bowel; or it may lead to considerable distension of the gall-bladder, with the liability to rupture of the bladder and the probability of a fatal termination.

The diagnosis usually is simple, but frequently is overlooked or mistaken, since the symptoms do not always point directly to the gall-bladder as the seat of the disorder. It is possible occasionally to feel a stone in the gall-bladder, and then there cannot be any doubt about the nature of the ailment, but more often the absence of direct symptoms necessitates diagnosis by exclusion. Examination by Röntgen rays as an aid to diagnosis is entirely untrustworthy and simply is a waste of time and trouble.

There are very few diseases for which gall-stones can be mistaken, but the most frequent error is to diagnose gall-stones as gastric or duodenal ulcer. The mistake generally is due to a hasty diagnosis, based on a preconceived idea or on insufficient evidence of the nature of the complaint. The one diagnosis about which there is any real difficulty is between gall-stones and cancer. The assertion that gall-stones are a cause of cancer is entirely without corroboration, and probably is dependent on the fact that gall-stones are so prevalent that they co-exist in cases of malignant disease.

Treatment aims either at the relief of the paroxysm during the passage of the stone, or at the prevention of the formation of a stone. During the acute attack of pain and spasm, the

patient should be given a very hot bath or hot applications over the seat of pain, large draughts of hot effervescing drinks, and a hypodermic injection of $\frac{1}{3}$ or $\frac{1}{2}$ grain of morphia in combination with the proportionate quantity of atropine. Should the sickness continue to be persistent, ice to suck should be substituted for the hot drinks. Inhalation of chloroform may be tried, but apparently only is beneficial if the stone falls back again into the gall-bladder. The attempt to express the stone by manipulation is attended with great risk, and though at one time it received authoritative recommendation, fortunately is now almost an obsolete practice. The pain and tenderness after the passage of the stone are best relieved by opium and belladonna. The following is a useful prescription :

| | | |
|---|---|---|
| ℞ | Nepenthe ... ... ... ... | ♏ v.-♏ x. |
| | Tincturæ belladonnæ ... ... | ♏ v. |
| | Aquam floris aurantii ... ... | ad oz. i. |

Misce. The dose to be given at intervals of one hour for four doses, and then in half-doses every two hours, until the pain is relieved.

With the relief of the pain and the cessation of the spasm, active treatment should cease in the hope that further trouble will not recur; but if fresh paroxysms occur in rapid succession, wear-

ing out the strength of the patient, an operation becomes a necessity.

After a suitable and sufficient interval of inactivity, measures should be adopted to thin the bile, and prevent the formation of fresh stones. A powder of 20 grains of phosphate of soda dissolved in a wineglass of hot water, and taken before each meal, is an old-fashioned remedy, which still receives the support of practical experience. Granular laxative lithia (P. D. & Co.), which contains 5 grains of citrate of lithia and 30 grains each of citrate of potash and phosphate of soda, in a heaped-up teaspoonful, is another useful remedy, which is to be preferred if there is any tendency to constipation, and should be given in a tumblerful of water morning and evening. All the preparations of soda help to thin the bile, and one variety is quite as good as another, so the selection is in reality a matter of personal favouritism.

The attempt to dissolve the stones should not be recklessly made, since it is a known fact that many patients only have one attack, or at any rate are free for many years from a second attack. It may be that there was only one stone or concretion, but the more probable explanation is that the gall-stones, since usually they are multiple, fill up or are wedged together in the gall-

bladder. It is obvious, therefore, that it would be unwise to loosen or separate the stones, as would happen during the process of dissolution. The only harmless reputed solvent is olive oil, which is not really a solvent, but merely a lubricating fluid, which facilitates the passage of the stones.

## HÆMORRHOIDS

Hæmorrhoids, or piles, are dilated or varicose veins, which are called "external" or "internal" according to the situation without or within the sphincter muscle. Sometimes they are neither entirely external nor completely internal, but exist on the border-line, and are then called "intermediate piles."

The chief cause is obstruction to the return flow of the blood to the liver, so either congestion or torpor of the liver by the retardation of the flow favours the production of piles. Sedentary habits, excessive straining at stool, sitting on a cold or damp seat, too free indulgence in alcoholic drinks, violent purging, or doing anything which induces congestion in the region of the rectum, are predisposing or contributory causes.

External piles seldom bleed, and rarely give rise to any greater inconvenience than a feeling of heat and irritation, unless they become inflamed, and then they cause acute pain. An inflamed external pile is usually a small bluish or livid swelling, which does not disappear on pressure, and consists of a dark coloured clot, enclosed in a cyst. The inflammation either runs on into an abscess or subsides by the absorption of the clot, leaving behind a tag of thickened skin. The formation of an abscess, or the removal of the clot, are the natural processes of cure, so treatment aims at the production of one of these two results. The application of hot poppy-head fomentations, or of linseed-meal poultices, or of frequent bathing with hot water, favours either suppuration or absorption, but frequently is a slow and tedious procedure; so that when the pile is very painful, it is quicker and better to slit open the cyst, turn out the clot, plug the cavity with disinfecting gauze, and allow the wound to heal by granulation.

Internal piles are varicose swellings, varying in size and number, and are caused by the dilatation of the bloodvessels, chiefly the veins, within the bowel. If of small size, they only give rise to a feeling of discomfort, as if there were a something

in the bowel requiring to be removed; but if large, they protrude during the act of defæcation or after any straining or exertion, and resemble a small bunch of grapes. They frequently bleed freely, but the loss of blood, unless excessive or undermining the general health, is usually a safeguard, since it relieves the tension, and mitigates, if not removes, the pain. Treatment mainly depends on the cause, but the chief consideration is the promotion of the easy flow of blood through the liver. A mild liver pill, followed by a small dose of a saline medicine, as Eno's fruit salt or pyretic saline, will relieve the congestion and lessen the force of resistance in the liver; but the pill must be mild and the saline not too strong, or the remedies will aggravate the condition. Care should be taken to keep the piles internal to the sphincter muscle by gently pressing in an upward and backward direction on the protrusion until the piles glide within the bowel. Very often they descend almost as soon as they have been replaced, but the process of returning them must be repeated again and again; for as long as they protrude there is risk of strangulation and of an increase of inflammation. The bowel, if loaded, should be washed out with a copious enema of warm water, and then a pad of cotton-wool, a few fibres of which should be inserted

within the sphincter muscle to promote contraction, should be placed over the exit, and firmly held in position by a T-bandage. An elastic bandage with a rubber pad sometimes succeeds in keeping up the piles, but as often as not it causes so much discomfort that the patient refuses to continue the use of it. Bleeding, unless excessive, should not be hastily checked, as it serves to lessen the congestion of the liver, which is the cause of the piles; but if either profuse or of frequent occurrence, should be arrested by the insertion within the passage of a small lump of ice, or by the injection of a sherry-wineglass of iced water, followed by the use of a hamamelis suppository, or a hazeline enule (B. W. & Co.), night and morning. If the bleeding be so severe as to necessitate the adoption of prompt measures for the cessation of the hæmorrhage, the insertion of an adrenaline (1 in 1,000) suppository is an advisable procedure; but the use of adrenaline should be restricted solely to an urgent and severe case of bleeding, and should not be employed for continuous treatment. Messrs. Parke Davis and Co. supply a suppository of adrenaline, cocaine, formidine, and hamamelis, which, in addition to the astringent effect, possesses analgesic and antiseptic properties, and is often of great efficacy. If one kind of suppository does not produce any

improvement, another variety should be given a trial. Hæmorrhoidal cones of unguentine (Christy and Co.), compound ephredin conules (Setterie), anusol suppositories (Reitmeyer and Co.), pine suppositories (Jarrow and Co.), are often useful preparations. The bleeding sometimes resists all local applications, and then the question of operation needs consideration. An operation inevitably checks the hæmorrhage, and temporarily cures the condition; but if the cause of the bleeding be due to some defect in the liver, a recurrence of the hæmorrhage is a practical certainty. It follows, therefore, that an operation should not be performed as a matter of routine practice, but only when, after a positive diagnosis of the cause, there exists a probability of a cure. It sometimes happens that the bleeding is so profuse as to endanger the life of the patient, and then it is necessary to operate without any further delay.

There are several operations for the cure of piles, and there are various methods of performing them; but the best operation is the one with which the surgeon is most familiar, and has had the greatest personal experience.

The prevention of piles is insured by attention to the regular action of the bowels; but if any predisposition or threatening exists, it is advisable

to inject into the bowel at bedtime 1 teaspoonful of compound glycerine of thymol, mixed with a sherry-wineglass of water. The injection should be given slowly, so that the fluid may remain within the bowel for absorption.

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